THE
MEDICAL AND SURGICAL REPORTER.

No. 1827. PHILADELPHIA, MARCH 5, 1892. VOL. LXVI.—No. 10.

CLINICAL LECTURE.

A CASE OF INTERMITTENT CLAUDICATION, OR LIMPING, DUE TO AN ARTERIAL OBLITERATION OF SYPHILITIC ORIGIN.*

BY PROFESSOR CHARCOT.

PARIS, FRANCE.

Gentlemen:—I will show you to-day a very characteristic example of an affection which I observed and described in man about 30 years ago.† I have reference to intermittent limping due to arterial obliteration, which can also be called intermittent ischæmic painful paralysis, or still, an intermittent painful paralysis due to an intermittent or functional ischæmia of the extremity. These different names are given by reason of the principal clinical characters manifested. When I speak of intermittent limping, for the sake of brevity, I have reference to the particular variety of the disease which I have described.

I cannot better impress upon your minds this symptom, or rather this especial syndrome, than by making the patient walk before you for an instant. She is a woman 52 years of age, a seamstress by occupation, who recently entered my service.

Sitting, or lying in bed, she does not exhibit any motor disturbances, she can freely move her limbs and feet, but when she is made to walk the characteristic signs appear. Otherwise, there is nothing abnormal. In about two minutes there appears upon the hand a sharp, shooting pain, alighting then upon the calf of the left leg and afterwards upon that of the right one, invading, finally, the instep of both legs. In the mean time the inferior extremities become benumbed, walking is more and more difficult, and the patient at last is forced, by the progressive weakness and the increasing pain, to stop and sit down. Is the train of symptoms completed? Not at all; I have yet to add a new feature which is wanting in the case before us: It is a muscular contraction, a painful cramp which stiffens the extremity attacked and hinders even voluntary movement. Without doubt, this latter phenomenon could be demonstrated in our patient if it were not for the pain that is elicited.

The symptoms developed in the paroxysm soon diminish in severity owing to the influence of rest. The contraction and the pain disappear, and motor-power is re-established. In a short time the patient can resume his walking. Again, however, the phenomena reappear, these coming on after the same lapse of time more or less, about an hour, and hence the justifiability of the term *intermittent limping*.

This patient has been suffering from the disease for the last nine months. At the beginning, 20 minutes or half an hour after walking she would begin to experience the characteristic pain; this became progressively worse until it has reached the present state.

Intermittent claudication is not a disease peculiar to man. Although I have studied it in human beings, it has been observed by veterinary physicians; and I have but to apply to the disease in man the facts furnished by the same malady observed in the lower animals. Bouley in France and Hertwig in Germany have particularly endeavored to demonstrate the existence in the horse of claudication due to arterial obliteration. Here the train of symptoms is always the same, and perhaps these are more marked. The horse trots as if nothing were the matter with him; in about quarter of an hour the animal shows more or less signs of fatigue, his gait being especially weak posteriorly; a stroke of the whip livens the

* A Clinical Lecture delivered at the Hospice de la Salpêtrière, and published in *Le Bulletin Medical*.

† Charcot—*Comptes-rendus de la Soc. de Biologie*, 1858, et *Leçons sur les maladies du système nerveux*, 1886, t. V *des œuvres complètes*.

beast's pace, but soon afterwards the animal appears to suffer more and more, his hind legs become stiff, and he finally falls. After a little while, the animal recovers, begins anew his work, but before he has gone very far is again attacked by the same symptoms.

The cause of these phenomena is well known: It is the obliteration or the contraction of the arteries supplying the extremity or extremities attacked. In the horse it is the abdominal aorta that is most frequently the seat of the vascular lesion. In the first instance, in which I have been able to obtain a good history, it started in an arterio-venous aneurism of the common iliac; but in man the lesion most frequently starts in an arterial stenosis due to a sclerotic condition of the vessel-walls. Thus, in a case to which I have often referred, in which the appearance of gangrene made amputation of the member affected a necessary procedure, it was found that in the extremity cut off the arteries were in a condition of extreme contraction, scarcely permeable.

I will point out to you in a few words (for further details you can consult my previous works) the pathological phenomena. Collaterally and through the very minute vessels, the extremity involved receives a very limited amount of blood, but sufficient to maintain the vitality of the tissues. Such a quantity of blood, however, is not sufficient to keep up the functions of the corresponding parts, because activity of the muscles implies, so to speak, an excess of work, and therefore, the need of a larger amount of nutritive material.

The same conditions may be produced by experimentation. Placing a temporary ligature at the inferior portion of the abdominal aorta gives rise to anæmia of the lower extremities; the animal exhibits pain; and the muscles deprived of blood become rigid. Taking off the ligature, by which the circulation is re-established, a return of the organs implicated to the normal state is brought about. If the ligature is allowed to remain the lesions will become permanent. This is precisely what happens in the phenomenon of cadaveric rigidity, or in a local mortification which is the prelude of a coming gangrene. Are the results of these experiments instituted by Stenson and Brown-Sequard the same as those occurring in the subject suffering from intermittent limping? Not entirely so. Similar phenomena occur in operated animals, but the symptoms artificially produced by the suppression of the circulation do not disappear spontaneously as they do by simple rest in those cases that come under our observation. We can, however, *mutatis mutandis*, more or less apply to the case of man the phenomena produced by experimental pathology.

We must admit that the arterial lesions producing the symptoms of intermittent claudication, like those seen in an extremity, may, in any other organ, determine at least analogous phenomena. This prevision is realized in many organs in which, according to their function, are produced symptoms similar to intermittent claudication. Thus in affections of the heart, in angina pectoris, the lesions are found in the coronary arteries, at least in the majority of cases. Cerebral vertigo, according to Professor Grasset, is due to arterial sclerosis. Such is the case also in reference to the same organ, in which, according to the excellent studies of Berlin, a lesion of a certain area of the cerebral cortex produces that curious phenomenon known under the name of *dyslexia*. You know what is meant by dyslexia. A person begins to read, everything appears to be all right, but after a certain time it becomes impossible for the reader to continue, and, without knowing what the matter is, is obliged finally to stop. After a little while, the reading is continued, to be followed by the same train of phenomena, and these interruptions go on until, if the reading is persisted in, a true intermittent cerebral halt, as it were, is produced. Pick,* arguing from the evident clinical analogies which exist between dyslexia and the phenomena which we have been studying, and based also upon anatomo-pathological analogies, comes to the probable correct conclusion that there is an identity in the pathogenic process. Considered in its widest sense, this syndrome, intermittent claudication, which by itself forms a most important chapter in pathological physiology, comprises a number of different facts from a clinical point of view, but, nevertheless, recognizes the same mechanism. Thus in a subject suffering from generalized arterial sclerosis, various organs may, simultaneously or successively, exhibit the same train of symptoms, all being the outcome of a common process. I was one day consulted about a case of intermittent limping, perfectly characterized, but, nevertheless, unrecognized up to that time. The condition having been ascribed to rheumatism, electricity was proposed. The beginning of the affection could be traced as far back as three months, and yet these signs,

*Pick—Zur Lehre der Dyslexie.—*Neurologisches Centralblatt*, March 1, 1891, No. 5, p. 130.

signs to which we will refer hereafter, announced the coming on of gangrene. Prolonged rest was advised on account of these phenomena, and the limping ceased. In this patient arterial sclerosis was revealed by the sudden blindness of one eye, the cause of which Galezowiski attributed to a thrombosis of the central artery of the retina. It is to another feature of the case which I desire to call your attention. In the patient, suffering from limping of the extremities, there was developed, at a certain period, an analogous affection of the heart, and he finally succumbed to an attack of angina pectoris. Vizzioli has observed, in a diabetic case, a similar succession of phenomena.

After these precursory remarks about the general pathology, let us consider intermittent claudication proper. The syndrome which constitutes the disease is, as I have already told you, a special one. Nevertheless, the same changes or symptoms may be produced, from one point of view, by certain intermittent paralyses of the inferior extremities. Such happened, for instance, in the case of a soldier, 30 years of age, who came to consult me a few days ago. About a year previously he had received a contusion on the foot. After a short time he could, without trouble, undertake to march at an ordinary pace, but if he was obliged to accelerate his walking, he would experience in the course of from 20 minutes to half an hour, a certain weakness of his right inferior extremity and a vague sensation of swelling of the leg, but without a true pain. He would be obliged to stop, rest a little while, and on resuming his march the same train of symptoms would re-appear, and so on indefinitely. We made him walk and examined him very carefully. After from 10 to 15 minutes' exercise, the right inferior extremity, without any sign of real limping, exhibited a peculiar awkwardness; in about from 20 to 30 minutes the trouble attained its height in intensity, and the patient was obliged to take a rest. We explored the right inferior extremity but we found no change of color or temperature; neither did we find any modification in the beating of the pedal or the posterior tibial arteries; the pulse was accelerated, its rate being 112 per minute; finally, there was no pain on pressure over the muscles or over the region of the nerves. During the period of rest the patellar reflexes were markedly exaggerated, especially on the right side; the epileptoid trepidation of the foot could be elicited easily, but only on the right side. These symptoms were somewhat more pronounced after walking. I will add that the patient is free from all cardiac or vascular diseases, and has never suffered from syphilis. He is subject not to an hysteric but to a neurasthenic neuropathy. You have noticed the difference which exists between these phenomena and those which you have already studied. The absence of all circulatory disturbances in the same affected member is sufficient to assure us that, in this case, intermittent limping is not of arterial origin. I dare not say what the true nature of these symptoms is without a more ample information. I am led to believe in a peculiar debility of the nerve-centres, in a rapid exhaustion of them, this being the outcome of continuous activity.

Ischaemic intermittent claudication is due to an endoarteritis which in itself is a permanent and, to a great extent, progressive lesion. In such a condition there is great lack of blood-supply to the muscles when in activity. This being the case, what will be the result if a further diminution in the blood-supply continues? Nutrition, in its turn, will suffer a serious and definite damage; and the disturbances of function will be followed by disturbances of structure. In a word, the danger of sphacelus or gangrene is most imminent. Our patient is on the verge of being attacked by this serious condition. Let us examine her inferior extremities. On the right one the toes and the forefoot, and on the left one the toes alone, exhibit a reddish coloration which is the prelude of gangrene. In both members the arterial throbbing so plainly felt on the level of the femoral artery is absolutely imperceptible in the pedal, posterior and popliteal arteries. If you interrogate the patient she will tell you that she experiences in both feet, at night, shooting pains that interfere with her sleep, a phenomenon which belongs to the initial symptoms of gangrene of the extremities.

Bear this in mind and you will learn that intermittent claudication may take place during the prodromes of gangrene; this is not always the case, but when this symptom appears you must be on your guard, remembering that its appearance leads to a very significant prognosis. These facts are but little known, and they claim a chapter in the classical description of gangrene and its precursory symptoms. Here lies the origin of the mistakes that are frequently made. A patient came to me suffering from gangrene of both feet. After two months he complained of symptoms pertaining to intermittent claudication; in the mean time he had consulted many able physicians. He was told that he was suffering from rheuma-

tism and neuralgia, and was treated with electricity and various topical applications. The disease continued to develop until gangrene set in. It was found necessary to practise amputation, and the operation was performed by my colleague, Terrillon, Surgeon of this Hospice, who has reported the case to the *Société de Chirurgie.*

Are there any chances, by means of a treatment applied in due time, of preventing, in a similar case, the development of such conditions? Yes, most assuredly; we hope to succeed by them, and it is our duty to attempt to do so. It remains for us to decide upon the course of treatment under which we shall place our patient. The affection depends upon, or is caused by, an endoarteritis. But there are endoarterites of various natures; perhaps we may recognize for the disease a special etiology which may, in turn, render it amenable to a particular medication. At all events, it is important not to neglect to make an inquiry into this matter, and I have already examined this side of the problem.

Our patient is not addicted to the alcoholic habit; on the contrary, she is somewhat arthritic. An important fact is that she has arrived at an age when chronic arteritis ceases to be rare. Atheroma, or "the rust of life," as Bichat poetically calls it, may be considered as one of the attributes of senility. "One has the age of the arteries," the well-known aphorism of Cazalis, conveys the same idea. It is true that there are old people wholly exempt from this lesion; thus I have found at an autopsy of a centenarian, performed in this hospital, the total absence of any alteration in the walls of the blood-vessels. This is, however, the exception. According to Bichat, out of ten persons that have passed the age of 60, seven have atheroma. Our patient is not very far from this age. We must, however, examine other hypotheses.

The infectious diseases, notably typhoid fever, do not claim our attention. This cause is wanting in the present case.

In examining a patient suffering from intermittent claudication, we must always think about the possibility of the existence of diabetes. In 1861 I studied one of the complications of this malady, sphacelus, or gangrene, which sometimes associated itself with phlegmons or anthrax of a serious character, attacking, at the very start, the whole of one extremity. This diabetic gangrene of a member is the outcome, in my opinion, of an arteritis, and the cases of Potain, of Benni, similar in nature to mine, support my views. It may be conceived that the same lesion may produce intermittent claudication. I have recorded two cases, and recently Vizioli * has published three more. One of Vizioli's patients died from angina pectoris. According to Ferraro, diabetes may give rise to a special variety of arteritis, characterized by lesions of hyperplastic endoarteritis with tendency to produce marked constriction of the blood-vessels. Our patient, however, has no glycosuria; therefore, we shall no longer dwell upon this point.

Syphilis is one of the causes that ultimately exercise a deleterious influence upon the walls of the blood-vessels. Lancereaux, Virchow, and Clifford Albutt have called attention to its influence in the development of arteritis; but it is Heubner † who has especially studied the true characters of syphilic arteritis. The process begins on the internal membrane (contrary to the opinion of Baumgarten who ascribes the lesion to a gummatous peri-arteritis), followed by the formation of gummatous nodules, etc. We must bear in mind the relative precocity of this variety of arteritis which makes its appearance earlier than the common arterial sclerosis, and the absence of fatty or calcareous degeneration which makes a cure possible.

Do not forget that our patient is suffering from arteritis of the inferior extremities. We have asked ourselves whether arterial syphilis can attack such a seat. As has been recognized by Lancereaux and confirmed by Heubner, it is in the arteries of the brain where the disease finally localizes itself. It has, nevertheless, been observed in other regions, such as the vessels of the intestines (Heubner), in the coronary arteries (Ehrlich), and in the pulmonary artery (Wagner). Prout has pointed out the existence of syphilis in the peripheral arteries, though during his time syphilitic arteritis was not well known. A localized gangrene of the extremities has been observed during a course of syphilis; such is the case reported by Podres. On the whole, we cannot oppose the idea that the malady in question may be determined by syphilis; and it would not be illogical to make such an assertion in the present instance. It all depends upon whether we have sufficient reasons to believe in the presence of the infectious taint in this case. We have, I think, very

* Vizioli:—La Claudicazioni intermittente come mezzo diagnostico nei casi di diabete decipiens. *Commun. a l'Academ. med. chir. de Naples*, Napoli, 1891.

†Heubner:—Die luetische Erkrankung der Hirnarterien, Leipzig, 1874.

clear and convincing reasons, and these are furnished us by sufficiently characteristic evidences.

The patient suffered at about the age of 15 from articular pains which lasted for 18 months. Of late she has been subjected to attacks of migraine, accompanied with vomiting. These phenomena pertain to arthritism and point to the presence of syphilis.

In 1860, at the age of 24, there appeared upon the dorsal face of the feet a painful tumefaction which disappeared after a certain time, leaving as a vestige a small exostosis which still exists. Did she have, then, osseous gummata? Such is possible, but what follows is still more typical. Ten years later, at the age of 34, she suffered from a tenacious coryza, a rebellious sore throat, necrosis with the expulsion of the nasal bones; and thus you see her nose is deformed and flat. There is a small perforation of the soft palate, with irregular borders, a lesion which probably dates from that time. Five years elapsed.

In 1875 gummata developed in the region of the shoulder; a focus larger than the rest empties into a fistulous canal which gives passage to mortified fragments of tissue. Small cicatrices seen around the region are the present vestiges left by the application of the cautery as a therapeutic measure. The shoulder articulation is perfectly healthy. This is not all. From November, 1890, to January, 1891, that is, during a period of 3 whole months, the patient suffered day and night with an intense cephalalgia and consequent insomnia. She was given iodide of potassium during the last six weeks of this period, and the pains gradually decreased. In January, 1891, the first symptoms of rachitis made their appearance; these afterwards diminished, but did not disappear entirely. There was found at the superior portion of the dorsal region of the vertebral column an abnormal, hard protuberance, formed by a transverse and antero-posterior thickening of the spinal ridge. It was probably a developed syphilitic Pott's disease. At the same time symptoms of partial epilepsy were noticed, the aura beginning at the left superior extremity, extending to the leg of the same side, accompanied with sensations of vertigo, followed by transitory paralyses of the affected members. The various symptoms which I have described were, on the whole, combated by iodide of potassium and mercury. Their syphilitic nature did not escape the notice of the attending physicians. Immediately after the cephalalgia, intermittent claudication appeared for the first time.

I will summarise. Here is a history of a serious tertiary syphilis which has given rise to the development of the present conditions. We have no reason to deny the power of syphilis to produce in the extremities a specific arteritis. The part played by syphilis in the present case is sufficiently clear, and thus we must direct our treatment accordingly. What risks would we be apt to run, after all? If our hypothesis is false, no harm will follow; if it is exact, the chances are that our interference will be productive of the best results. To conclude, then:

1st. We must order, as is our duty to do in all cases of intermittent claudication of arterial origin, a prolonged rest. Strictly speaking, it is not absolutely necessary to require patients to rest wholly in bed; it is only essential that we prevent in some way the appearance of the symptoms of the disease in question. This means, patiently employed, may bring about the complete cessation of such symptoms.

2d. To diminish the pains which are particularly torturing at night we must have recourse to the use of opium. Rest will suffice sometimes to allay them.

3d. Finally, we must push the iodide of potassium, administering it in large doses, and employ at the same time mercurial frictions.

Can we succeed in checking the progress of the disease, and make it recede at the same time? It is hoped that such will take place, At all events, we shall have our conscience clear by having tried to prevent the progress of the disease, and of having combated the abnormal conditions by means of rational therapeutics.

PLASTER OF PARIS FORMULA.

1. *To Make Plaster Set Hard.*—Mix best plaster of Paris with about 10 per cent. (more or less, according to effect ascertained by preliminary experiment) of very finely powdered marble (calcium carbonate). Or add to it about 6 per cent. of powdered alum, or about the same amount of ammonium chloride, before mixing with water.

2. *To Make Plaster Set Slower.*—Mix it with 2 to 4 per cent. of powdered althæa root before adding the water. This not only retards the hardening of the plaster, but also enables it to be cut, filed, sawed and turned.

An addition of 8 per cent. of althæa powder retards the complete setting of the plaster for about one hour, so that the mass can be used for any purpose where it is to remain plastic during at least a portion of that time.—*Amer. Drug.*

COMMUNICATIONS.

REMARKABLE COLLECTION OF FOREIGN BODIES IN THE STOMACH.*

By JOSEPH D. CRAIG, A. M., M. D.
LECTURER ON AND DEMONSTRATOR OF ANATOMY IN THE ALBANY MEDICAL COLLEGE.

The following abstract of a case in which a remarkable collection of foreign bodies was found, *post mortem*, in the stomach, is worthy of record, both on account of the unusual number and character of the substances obtained.

The history of the case is as follows: Emma F., aged 24, was admitted to a hospital for the insane, Nov. 24, 1890. She was a servant by occupation, a native of Sweden, had been in the United States three years and was unmarried. Up to the time of her commitment the records state that both her parents were dead, and that she first became insane in March, 1889, that she was non-pregnant, and that the supposed cause of her insanity was delayed menstruation. After ten months' continuous custody in a County House, she was discharged in April, 1890, and was afterwards employed as a domestic for seven months. During these seven months the patient showed evidences of returning insanity, and she was finally taken to a State Hospital in November, 1890.

"On admission," says the hospital record, "patient took but little interest in her surroundings, was confused, childlike and incapable of giving a reliable account of herself; in fact, during her entire residence in the hospital, it was almost impossible to engage her in conversation, and when she was disposed to talk, she used such broken English and was so incoherent as to make it extremely difficult to follow her. Her general health was apparently fair, and she weighed 150 pounds. In the latter part of December, she began to fail and complained somewhat of colicky pains in her abdomen and had some diarrhœa and vomiting. Under treatment these symptoms subsided and she was able to occupy herself with light work about the ward until March, 1891, (about two months before she died) when she again complained of pain in the stomach, and vomited. About this time she had three profuse hæmorrhages from the bowels, which were very dark in color and attended with considerable griping. A careful examination of the abdomen was made and no evidence of a malignant growth was found. Several examinations of the chest had been made previously and there had been discovered some evidences of consolidation of the apices of the lungs. At this time another examination was made and the consolidation on the right side had increased. From now on she failed rapidly, became much emaciated, had night sweats, and coughed and expectorated a great deal. She did not, however, have any further stomach or intestinal disturbance until the 20th of April, when she again complained of pain. She had frequent attacks of vomiting, but did not eject anything resembling blood.

On May 23, she had two hæmorrhages from the lungs, and also some bleeding from the nose. She took nourishment fairly well and appeared to be free from any distress.

On the 25th of the same month, she was again troubled with vomiting, but had no pain with it. It was necessary to catheterize her for retention of urine. The vomiting subsided in the course of 24 hours and she had no further attack.

She died on the 29th of May, having successfully concealed from her attendants the fact that she had swallowed any foreign substance. The cause of the hæmorrhages and of the bloody stools and of the vomiting in March, two months previous to her death, was also unascertained during her life.

The body of this woman being unclaimed was duly received at the Albany Medical College early in June, was embalmed and preserved for dissection. On November 30, dissection was begun and about two weeks later the following articles, 120 in number, were found collected together partly at the pyloric end of the stomach and partly in the ascending portion of the duodenum.

1. Fifty-one pins.
2. Sixteen needles, (whole or part).
3. Three darning needles.
4. Thirty-two nails varying in length from a half inch to three inches.
5. Two screws, one of them 2½ inches long.
6. Three pieces of iron, 3½ x ½ inch.
7. Two rolls of hair.
8. Two pieces of wood.
9. Three pieces of cloth, each 5 x 1 inch.
10. Six hair pins.

The metal pieces were very much corroded and some of the pins and hair pins were bent. The rolls of hair and pieces of cloth were not preserved on account of their very offensive odor and from the fact that they presented nothing of unusual interest.

* Read before the Medical Society of the County of Albany, February 10, 1892.

The pieces of cloth were evidently torn from the calico dress and underclothing of the patient. It is to be regretted that, owing to the advanced state of decomposition of the body, other portions of it, particularly the lungs, could not be satisfactorily examined.

Patients are occasionally found among the insane and hysterical who swallow various foreign substances, but it is unusual for them to introduce into their bodies so great a variety and so large a number of articles as were found in this case. There seems also to be a desire on the part of such people to conceal, not only the fact, but also the manner of the introduction of extraneous bodies, and even when the evidence is conclusive of the actual presence of needles or pins in the tissues, they will deny any knowledge of the way in which they were introduced. This concealment is not due to any sense of regret or chagrin or shame but from an obstinate insane determination, and seems to give them satisfaction and pleasure to prevent the attendants from obtaining positive information. It is also quite clear that these substances are not used with suicidal intent, but that, with the loss or perversion of the reasoning powers, there is an inability to properly estimate the consequences of such an act. These cases also occur most frequently among women, and among women whose insanity is due to some perversion of the menstrual function.

In order that this case may present greater interest, I have grouped with it three others which are noteworthy from the large number of substances found. The brief histories of these cases are as follows:

The first case is taken from the records of one of the State hospitals for the insane. This patient was also a woman from whose neck and abdomen were removed eleven hair pins, nineteen pins and one needle. Nothing could be ascertained in regard to the manner in which these substances were introduced into her body as she could not be induced to make any statement regarding them.

The second case was reported by Dr. Judson B. Andrews in the *American Journal of Insanity* for July, 1872. A very brief abstract is here presented. This patient was also a woman, 30 years of age, a seamstress, single, with no hereditary tendency to insanity, was of a highly nervous and excitable organization, emotional and irregular in feeling. She suffered at various periods from severe pains in the head, and with delirium at menstrual periods. Had also at various times attacks of acute rheumatism, and diphtheria, and, finally, peritonitis, from all of which she recovered. To quiet the pain and distress of these diseases she took morphine hypodermically, becoming at last addicted to the drug and using about a dram and a half per week.

Just before her admittance to the asylum, she purchased ten papers of needles, only two of which could be accounted for except as they were removed from various parts of the body. When first brought to the asylum, she was maniacal. These maniacal symptoms gradually subsided and menstruation, suppressed for two years, began again with scanty flow, much pain, and delirium. Three months after her admittance a broken needle was extracted from her right breast, which was inflamed and extremely sensitive. From this time to her death after seven months' confinement in the asylum needles were removed from her left breast, the abdominal parietes, the mons veneris, labia and vagina. Some were removed from the thighs and legs down to the ankle, from the buttocks, from about the arms and from the back as high as the shoulders. As many as twelve needles were extracted in a single day. This woman, like the other two, repeatedly and persistently denied any knowledge of having introduced them either by the stomach or skin. A strict watch was kept of the patient at all times. She must have introduced the needles before reaching the asylum, and as they were all of them rusted, must have been in the body for some time. Their presence produced little local irritation and did not produce a fatal result.

Two hundred and eighty-six needles were taken from the body during life, three were passed from the rectum during sickness, and eleven were taken from the tissues after death. Of the number, 300 in all, 246 were whole and 54 parts of needles. Of the 300, 170 were found in the breasts, 60 in the abdominal wall, 20 in the genitals, 30 in the thighs and legs, and 20 in the back.

The third case was reported by Dr. Bastian, of London, at a meeting of the Clinical Society of London, held on December 14, 1891. The brief history is as follows: Eighty-six needles and one pin were removed from a body of a woman, an inmate at that time of the work-house at Guisborough, England. Fourteen needles were still to be felt in different parts of the body, and some the needles extracted were from 3½ to 3¾ inches in length. The patient was fifty-five years of age, and had suffered from epilepsy from childhood. This woman was fairly intelligent, had occasional fits of bad temper, at which times she refused food. She

had no morbid appetites, was accustomed to much sewing, and often had packages of needles in her possession. The needles had all been extracted by the doctor, the nurse, or the matron, or by the patient in the presence of one of the three. They had also, with one exception, been extracted from the hypochondriac, lumbar and iliac regions, or from the buttock or thigh of the left side, on which side there was some blunting of sensibility. Like the other cases, this patient would not make any definite statement as to how the needles were introduced, neither did their presence give rise to anything more than irritation and tenderness when they were approaching the skin and were about to emerge.

To sum up these four cases, in conclusion, it is found that they present the following characteristics in common:

1. The large number of bodies found.
2. Their presence in each case in a woman.
3. The persistent refusal of each to give any information as to what manner the bodies were introduced or that they were introduced at all.
4. The length of time these foreign substances, particularly the needles, remained in the body without giving rise to dangerous complications.

SOME CONTRA-INDICATIONS FOR THE USE OF OPIATES.*

By MARIE B. WERNER, M.D.,
PHILADELPHIA.

My object in presenting this subject before the Society to-night is that I wish to show that in general practice the indications are limited for the use of opiates. We must fully realize that we have a broader basis for medical science than symptomatology, in order to give our patient the full benefit of our knowledge. Our position being at all times one of trust, we must endeavor, in helping our patient, to find the cause and remove it, rather than hide the symptoms it gives rise to by an opiate. Aside from the possible mental disturbances such a course of treatment might induce, it often materially complicates surgical efforts to relieve patients, the results of which we have repeatedly heard discussed at these meetings.

In order to discuss this drug with due fairness, it will be necessary to give a few moments to the consideration of its pysiological action on the human economy. Dr. H. C. Wood, in his *Treatise on Therapeutics*, says: "When opium is taken in such a dose as to produce its mildest physiological effects, it exerts a quieting influence, inducing a peculiar dreamy condition; after a length of time, varying according to the idiosyncrasies of the patient and the dose of the drug, this condition passes into sleep, either light, dreamful, natural, or heavy, and deepening into stupor. On awakening, the patient may return at once to his normal condition; but very often he experience a state of depression, shown by languor, a little headache, nausea, or even vomiting, which may last for some hour. One of the most common of these departures from the ordinary course of symptoms is an excessive depression following the sleep produced by moderate doses of the medicine. This state is seen, as far as my experience goes, most usually in females of weak, nervous organization such as are peculiarly liable to attacks of neuralgia. The symptoms are a feeling of weakness and prostration, often accompanied by chilliness, a dull headache, and giddiness, but especially marked by nausea and frequent vomiting."

Bartholow states that, as a rule, opium does harm in all gastro-intestinal maladies in which there is a deficiency in the proper secretion, or a suspension of the functions of the liver and kidneys.

Dr. J. B. Mattison, in his valuable paper before this Society in October, 1890, entitled "The Renal Status of Opium Habitués," after a careful analysis, arrived at the following conclusions: First, the habitual use of opium in any form will cause organic renal disease; second, the changes most likely to be met with are cirrhotic; third, that the rationale is threefold—vasomotor changes, impaired general nutrition, and inflammatory action due to non-eliminated irritant products. I would further call attention to the valuable contributions of Dr. A. Haig, published in the *British Medical Journal*, 1890, in his studies on the influence of opium and morphine on uric acid; also, of the retention of this latter product in the human economy, and its relation to the causes of disease. His observations and experiments proved to him that the administration of opium or morphine caused retention of uric acid, accompanied by a reduction of arterial tension; that, when the effect passes off, there is a rebound, with an excessive excretion of uric acid and marked high tension, often accompanied by headache and mental depression.

* Read before the Philadelphia County Medical Society, January 27th, 1892.

Let us look carefully into these statements and compare them with our practical experience; we find that, after lulling pain and induction of sleep, we come to a period of depression, even after a moderate dose of the drug. The depression is usually followed by a certain loss of resistance to bear any renewal of pain, and, in consequence, it becomes necessary to repeat the use of the drug; indeed, when we study carefully its action on a previously weak, nervous organization, we find the description given by Dr. Wood very ably describes the case for us. He tells us: "The symptoms are a feeling of weakness, prostration, chilliness, dull headache, nauseau, etc." In the face of this the questions must certainly present themselves to us: Is it wise to simply gratify the desire of the patient? Would it not be better to study the cause and remove it rather than hide the symptoms which lead us to the origin of the trouble? I refer to cases in everyday practice; cases in which a periodical monthly pain is lulled to sleep by several doses of morphine or opium, while the proper cause is entirely left out of sight. There is no doubt in my mind that cases have come to all of us where a case of chronic constipation or continuous indigestion, combined with a nervous, irritable temperament, perhaps, added to that, or independent of this, an unpleasant skin eruption, etc., claimed our attention.

Quite often a question regarding any menstrual difficulties shows that there is some pain, often varying in severity, and the next question, What do you do for the pain? will elicit the answer: Oh! I take a little paregoric, or I have some pills or suppositories I use, perhaps previously given to some member of the family for pain. Not infrequently an investigation will show that the main ingredient is an opiate.

In our day of progressive medical science it becomes necessary that we should join hands and forces—first, to see if the proper hygienic rules regarding clothing, exercise, and cleanliness are scrupulously carried out, and that the proper functions of secretions and excretions are thoroughly understood. If aside from these precautions there is still pain, a local investigation should be made by the physician, and the condition carefully studied, the cause removed if possible. To give an opiate in such cases I consider criminal, since the patient receives a double injury; not only is she not relieved permanently, but she is robbed of much of her normal resistance, and I fear many have become chronic invalids, for it is a constant struggle to overcome the after-effects of the opiate before the time arrives for another relief of the same sort. If the patient escapes becoming addicted to the opium habit, she cannot escape the local gastro-intestinal irritation which is invariably set up, and which will defy all medication so long as its cause is kept up.

I can at this moment call to mind three cases, in which three weeks out of four all sorts of laxatives are used to overcome the amount of morphine taken during the fourth week; the complexion is sallow, the breath heavy, the skin impure, and how can it be otherwise? If an examination reveals no functional trouble other than the local congestion, or possibly some displacement downward induced by improper clothing or a lack of attention to the proper excretions, is it not at once clear that an opiate in the long run increases the cause of pain? Lulling the pain induces no cure, and the resulting constipation acts in two ways to make the patient worse: first, the pressure of a distended bowel; second, the absorption of effete products. Let such conditions continue for some years, as they often do, and we have other factors enter the field to make life miserable—a sluggishly acting liver or kidneys, a worn-out stomach, and not infrequently a nervous wreck.

In order to emphasize this point, I will only have to call attention to a series of comparative experiments on animals* made by Dr. Edward Levinstein, and reported in his book on *Morbid Craving for Morphine*, whose deductions from a number of experiments are as follows:

"1. That internal applications of morphine sooner paralyze the digestive powers of the stomach than the subcutaneous injection.

"2. Both ways of administering morphine bring on functional disorders of the secreting nerves.

"3. Both cause catarrh of the stomach and intestinal tract.

"4. Large doses of morphine given internally cause a subacute catarrh of the stomach, on account of the irritating chemical action of the morphine.

"5. The subcutaneous injection of morphine causes a chronic catarrh of the intestines in a mechanical manner, in consequence of the impaired influence of the secreting glands, due to the action of the morphine; the secretion of the digestive

*Covering a space of time from six days to five weeks.

fluids is stopped altogether, or at least diminished in quantity, and consequently the intestinal tract is encumbered for a longer time by the ingesta."

The same author speaks of amenorrhœa and sterility as being a sequence of the continued use of morphine, drawing largely upon the results of his own observations, and accepts Pflueger's theory in explanation of it.

In these days, when "preventive medicine" is being advocated by all of us who desire to place medical science on the highest standard, should we not think many times more than twice before we write a prescription for an opiate to relieve pain? In the face of all these facts, it becomes a serious question of right and wrong if we stop short of exerting all our knowledge to study the *cause* of the pain we have been called in to alleviate. Often the prescription-book is entirely useless, unless its blanks could be filled with directions to the patient how to dress, eat, and give herself the physical care she needs.

The use of morphine after pelvic operations has been discarded by most of our operators, and clearly has been the means of reducing mortality rates as well as obviating many of the dreaded after-complications. I recall in one of my earlier operations the advice given by one of our older physicians to rely on opium and calomel, which I followed, with the result of having on my hands a sufferer from insomnia and chronic constipation after I had discontinued its use; had I not been careful to destroy all prescriptions, I feel certain I would have had more trouble. Another case comes to my mind of a patient who had a section done for some pelvic trouble by a physician, who also believed in the opium after-treatment. This patient came under my care later, and confessed that she had often helped herself to a suppository after the doctor had stopped their use. My object in referring to these cases is to show the danger of setting up the morbid craving and its attendant evils with only medicinal doses and in the space of two or three weeks; showing at once the danger a prescription containing an opiate may induce in the hands of a nervous patient who has periodical attacks of pain. Such cases do not alway reach the state necessary to require hospital treatment; hence are often exceedingly vexing to the physician and surrounding friends. A direct accusation to the patient would often fail to bring the results desired, while the friends and relatives cannot always be relied upon for the tact and discretion so necessary. For that reason the physician must often exercise a vast amount of patience and time to educate the ones immediately concerned, and to prove the deleterious effects the use of opiates have, and then, *perhaps*, the patient can be cured.

It may, perhaps, be of interest to quote from a discussion on morphine in the British Gynæcological Society, 1889: Dr. Bantock gave us his experience after surgical operation "that patients were much better off without it—they escaped the restlessness which was left as the opium wore off." Dr. Bedford Fenwick called attention to the fact that opium increased the congestion of the kidneys to a dangerous extent, and might even go to a complete suppression of urine; also, that it caused a complete atony or paralysis of the muscular tissue of the intestines, thus preventing their acting. Dr. R. T. Smith had given two doses of a quarter-grain of morphine each in a case of severe shingles; the patient had suppression of urine for twenty-four hours. Dr. Thomas Savage, in his address read at the annual meeting of the Birmingham and Midland Counties Branch of the British Medical Association, says: "It is not long since it was the custom to administer opium and morphine as a routine treatment in all cases of peritonitis and many other conditions in the abdomen. We have now learned the inadvisability of so doing. May we not extend the withholding of these and similar drugs in other states? I have myself thought that the general practitioners rely too much upon anodynes."

In this matter of too sympathetic and assiduous medical treatment errors rather of judgment than intention are often committed.

Of no less importance is the behavior of an opiate on a patient of uric acid diathesis, in which a demand for relief of pain on the part of the patient often becomes quite urgent. Here again the researches of Dr. A. Haig show us that the drug tends to store up the acid; that when elimination begins to take place there is often a return of the pain, the patient again demanding relief—in this manner a cycle can easily become established. These pictures teach us the importance of keeping the drug *entirely out of the reach of the patient*, and the necessity of its *careful* and *conscientious* use where it may be indicated.

BRONCHITIS, ACUTE.

(Da Costa.)

℞

Vini ipecacuanhæ	2 drams.
Liq. potass. citratis	4 ounces.
Tinct. opi. camph	1 ounce.
Syr. acaciæ	1 "

M. Sig. Tablespoonful three times daily.

DIAPHRAGMATIC HERNIA.

By JOHN M. CURRIER, M. D.,
NEWPORT, VERMONT.

On January 14th, 1892, I was invited to be present at an autopsy of a man who had died the day before. He was sixty-seven years of age; body well nourished. On January sixth the patient ate some pea soup for dinner; shortly afterwards he was taken with pains in his bowels, which was treated with domestic remedies, only partially getting relief. Vomiting came on, colic increased, and a physician was called who relieved him by the use of hypodermic injections of morphia, but the symptoms soon returned. It was necessary to keep the patient under the influence of anodynes in large doses, to give him any comfort. He had only one evacuation from his bowels after he was taken, although repeated injections had been given. Very dark grumous matter was ejected from the stomach. The patient continued to grow worse until his death early on the 13th.

The autopsy was held thirty-two hours after death. An incision was made from the top of the sternum to the os pubis, through the skin and subcutaneous tissues to the sternum, and through the abdominal walls. On turning these abdominal flaps to the right and left the ascending colon was brought into view; it was distended with gas fully four inches in diameter; the head of the colon was displaced, and laid up in the hernial sac through an opening in the diaphragm extending from the mediastinum to the right five inches along the thoracic walls. The head of the colon was pendulous fully twelve inches, and seemed to have floated around in the abdominal cavity at all times according to the amount of gas it contained. The head of the colon which laid in the sac was highly congested. The appendix was seven inches in length and one-fourth inch in diameter. On pulling the colon out of the sac another loop of intestine was observed to have preceded the colon. It consisted of a portion of the transverse and descending colon, distended with gas; more highly inflamed, and approaching nearer to strangulation than the head of the colon. So that none of the contents could pass the constricted parts. After pulling out the second, a large portion of the omentum was found in the sac having been pushed up in by the loop of the former. The stomach was empty and not congested. The gall blader was filled with dark bile. The liver normal. The remaining portions of intestines not involved in the sac were not distended with gas and were pale and bloodless.

The hernial sac consisted of the peritoneal membrane, somewhat thickened, but having no adhesions to the abdominal viscera nor to the lungs. It seemed to have taken on an elasticity which allowed the sac to become largely distended without rupturing. The edges of the torn diaphragm were thickened and rounded, the sac gliding over the border easily.

I got the early history of this case from the wife of the patient. Nineteen years ago he had a very severe attack of vomiting, with colic, accompanied with distressed breathing and cough, which attack lasted him many days, but gradually rcovered. He was ever after this subject to occasional attacks of colic with vomiting, cough and distressed breathing, but would recover from them in a few days. He was quite a hearty eater and his body was well nourished. About eight years ago he had cerebral hæmorrhage, followed by hemiphlegia of the left side, from which he readily recovered. There is no doubt about this hernia having existed nineteen years, yet the man was in tolerable good health except when he ate something which created gas in the intestines. The opening was too large to produce strangulation under ordinary circumstances.

I learned from the physicians who attended him, that over the region of hernia it was extremely tympanitic and painful. The case was regarded as one of "stoppage of the bowels." The question came up: Could laparotomy have relieved, and saved the patient? Of course the intestines in the sac could easily have been pulled out, the gas evacuated, and every thing gone on as usual, but during the healing of the abdominal wound, the intestines would again fill with gas, and float up into the sac.

ALCOHOL AND THE NERVE CENTRES.

Dr. Shorthouse has been investigating the effect of various intoxicating liquors on different parts of the cerebellum when imbibed not "wisely but too well." Dr. Shorthouse finds that good wine and beer indiscreetly imbibed have the effect of making a man fall on his side; whisky, and especially Irish whisky, on his face, and cider and perry, on his back, these disturbances of equilibrium corresponding exactly with those caused by injury to the lateral lobes and to the anterior and posterior parts of the middle lobe of the cerebellum respectively.

SOME NEW STUDIES OF THE OPIUM DISEASE.*

By T. D. CROTHERS, M. D.,
SUPT. WALNUT LODGE HOSPITAL, HARTFORD, CONN.

As a preface, I wish to express my emphatic dissent against the common use of the word *habit*, in describing the opium disease. The popular meaning conveyed by this term is some state or condition voluntarily acquired and retained with the certainty of being thrown off at any time at the will of the patient. This view assumes a knowledge of physiology and psychology of the brain and its functions that is not yet attained. Hence the use of the word is incorrect, wrong, and contradicted by the facts in the clinical history of each case. It also conveys a false impression of the nature and origin of such cases, and is a word to which different meanings will always be given. No other word is more misleading and confusing, when applied to opium, alcohol, and other borderland neuroses.

Beyond all question, the toxic use of opium and its alkaloids is rapidly increasing. Only about 50 per cent. of opium and morphine manufactured is required by the legitimate demands of medicine and pharmacy. The enormous balance is consumed in some unknown way. Comparative estimates make the number of opium cases in this country over a hundred thousand. Whether this is correct or not, it is evident that the number is very great and largely concealed, and many of them are very hopeless and difficult to treat. The natural history of such cases indicates a steady, progressive degeneration, on to death. Recovery is rarely spontaneous, and without the aid of applied science. Up to the present all clinical studies have been confined to the symptoms and treatment, starting from some indefinite point after the opium addiction begins. The old superstition of a moral origin, and some wilful, wicked impulse, is accepted as the first original cause. Writers, and even specialists, seldom go back into the early etiology, or inquire what conditions or forces led to the first use of opium. The object of this paper is to trace some recent facts which throw new light on this unknown stage of etiology.

From a careful clinical study and grouping of the history of a number of opium cases, it is evident that a large proportion have a distinct *neurotic diathesis*, or, more literally, have inherited from their parents some condition of brain and nerve defect which favors and predisposes to the development of neurotic diseases. A more careful study of these records shows that in some cases an *opium diathesis* is present, or a special inherited tendency to use opium. Here are two conditions which influence and favor this disease. It is a well-known fact that a large proportion of all nerve and brain diseases appears in children of neurotic and defective parents. Such children have received some special tendency and predisposition favoring the growth of nerve diseases, springing into activity from the slightest causes.

The latency or activity of this diathesis will depend on certain conditions of life and surroundings, which in many cases can be traced. In some instances the diseases of parents reappear in the children, in others in allied diseases, and not infrequently these defects pass over and reappear in the third generation. Often such defects are dormant, and only break out from the application of some peculiar exciting cause. Thus a hysteric mother and paranæic father were followed by three children. One was an alcoholic, the second was a wild, impulsive temperance reformer, the third was a sad, depressed, melancholic man. In the third generation opium and alcoholic inebriety, insanity, pauperism, also feebleness of mind and body, appeared. These varied forms of nerve diseases all had a neurotic diathesis as a basis, and the different phases were the direct result of different exciting causes. These facts are numerous and well attested, and so uniform in their operation that it is entirely within the realm of possibility to predict that, from a knowledge of the diseases of the parent and the environment of the child, certain forms of degeneration and diseases will appear with almost astronomical precision. This term neurotic diathesis covers a vast unknown field of causes which extend back many generations. The evolution of brain and nerve defects can often be traced through the realms of environment, nutrition, growth, and development. Medical text-books and teaching which fail to recognize this, give very narrow conceptions and strange exaggerations of the influence and force of many insignificant and secondary factors in the production of disease. The opium-taker has often this neurotic element in his history. It may be traced back to his ancestors, or it may be associated with brain or nerve injuries, cell-starvation, faulty nutrition, auto-intoxications, brain strains, or excessive drains of nerve force.

*Read before the Philadelphia County Medical Society, Jan. 27th, 1892.

A train of predisposing causes may have been gathering for an indefinite time back. Then comes the match which kindles or fires the train of *gathering forces.* This same train of exciting causes may not explode, because the germ soil is absent. Opium in all forms is given daily, and yet only a comparatively small number of cases become addicted to its use. Why should an increasing number of persons take opium continuously for the transient relief it gives? Why should the effects of this drug become so pleasing as to demand its increased use, irrespective of all consequences? The only explanation is the presence of a neurotic diathesis, either inherited or acquired. The existence of a special opium diathesis has been doubted with supercilious contempt by many writers. Any clinical study of cases will show the error of such doubt. The notes of a few cases which have recently come under observation are illustrations by no means uncommon, and indicate the concealed factors of disease in many instances:

In Case 1 the mother was a secret morphine-taker, the father was a hypochondriac and melancholy clergyman. Two children followed, who were highly educated and healthy. One, a boy, became a physician, and at thirty suddenly began to use morphine and soon became a chronic case. The other, a girl, was well up to her marriage at twenty-four, when she began to use opium, for no apparent reason.

Case 2, reported by the late Dr. Parrish. Both parents used opium for sleep and neuralgia, and died leaving three children under five years of age. They were brought up in temperate families, and had no knowledge of the opium addiction of their parents. One, at twenty, continued the use of morphine after it had been given for some intestinal trouble. The second child suffered from dysmenorrhœa and began to take morphine for this trouble, and became a morphine maniac. The third child was a druggist, who at thirty was a confirmed opium taker.

Case 3. Both parents were neurotic, and probably opium-takers. Both died, leaving an infant child which was excessively irritable and peevish. By accident, morphine was used as a remedy, and from thenceforth the child would become delirious unless morphine was given daily. All efforts to break up its use failed, and for five years increasing doses were used constantly until the child's death.

In Case 4, five children of unknown parentage were all opium takers; all lived in different conditions and had different occupations. Two began the use of opium from some bowel trouble. Two have been under treatment, and relapsed (?).

The relief which this drug brings on all occasions, and its impulsive use, are unmistakable indications of a distinct opiun diathesis. I believe a careful clinical study will reveal many such instances.

There is a large class of opium cases in which a complex diathesis exists—particularly following inebriety and various forms of brain exhaustion. Often alcoholics will use opium irregularly and transmit to their descendants a diathesis which very commonly favors the use of this drug. Thus the alcohol diathesis frequently becomes the opium craze, with but slight exposure. Both of these disorders are rapidly interchangeable. The children of opium-takers may turn to alcohol for relief, and *vice versa.* It is clear that the moderate use of alcohol produces a degree of degeneration that frequently appears in the next generation as predisposing causes to the opium or allied diseases. Clinical study of cases brings ample confirmation of this. The children of both alcohol and opium inebriates display many forms of brain degeneration. The paranœics, criminals, prostitutes, paupers, and the army of defects, all build up a diathesis and favoring soil for the opium craze. Descendants from such parents will always be markedly defective. They are noted by brain and nerve instability, hyperæsthesia, and tendency to exhaustion; also extreme pain from every degree of functional disturbance, with low powers of restoration, inability to bear pain, and suffering from mental changeability, impulsiveness, and drug credulity, etc.

These characteristics are prominent, and mark a neurosis that quickly merges into the opium disease. Yet a minority of these cases show a sensitiveness in the effects of opium that prevents them from using it. I have seen a neurotic patient become dangerously narcotized by the use of half a grain of solid opium. Some of the alcoholics and other narcomaniacs have exhibited an incompatibility to opium that is often startling. The emesis and prostration, and the brain-stimulation which approaches and becomes hyperæmia from one or more doses, are familiar to all. This intolerance precludes the use of the drug, and is recognized with alarm by the patient. On the other hand, when the effects are rapid and marked, relieving pain or restoring the disturbance of the functions with no other than a pleasing sense of rest and cure, a dangerous diathesis should be

suspected. While the physician recognizes the constitutional incompatibility in one case, he ought not to overlook the abnormal attractiveness of the drug in the other. The dose of morphine which gives the first complete rest, or calms the delirious excitement, or relieves the neuralgic pain or the digestive disturbance, soon calls for its repetition, and many physicians will unconsciously sanction and advise its use. Thus, far more fatal conditions are cultivated and roused into activity. In all neurotic cases, the use of opium in any form when given, should be concealed and watched with care. If a special predilection for this drug appears, equal care and skill should be exercised to divert and change it. Opium should only be used from a knowledge of the nature and character of the case. I have seen the most disastrous results from the reckless use of morphine with the needle. Recently, a man to whom morphine was intolerant was cut and stunned by a falling plank in the street. The surgeon gave him a hypodermic of morphine, and ordered him to the hospital. He died in a short time from opium neuroses. Police surgeons often make this mistake, giving morphine that from some unknown reason becomes fatal.

There is another class of opium-takers in which abnormal nutrition seems to be the most active factor in the causation. The neurotic or opium diathesis is not apparently present, and opium-taking dates from some nutrient disturbance. Such cases are very commonly sufferers from dyspepsia, derangement of the liver and bowels. They have a deranged appetite, headaches, cramps, thirst, and fever at times, with nausea. They are anæmic and hyperæsthetic, and complain of varied pains and neuralgias. These cases are evidently ill-nourished, and, in all probability, suffer from imperfect digestion, assimilation, and elimination of food products and waste material. Poisonous compounds and auto-intoxications form sources of serious trouble. The brain suffers from fatigue and pain, the cells are imperfectly nourished, and congestions, complex neuralgias, nerve irritation and instability follow. For this condition opium is almost a specific paralyzant. These cases are found among the over-fed, the under-fed, and those who neglect common hygienic rules of living. Cases of the over-fed are usually epicures, gormands, and persons living sedentary lives, and eating at all times and places. Dyspepsia and derangement of the bowels and kidneys make them drug-takers; then follows opium in some form. Defective elimination and auto-intoxications are always present. The under-fed are usually misers or persons very poor and very neglectful of themselves, or paranæics who have some food delusion. They are practically suffering from cell and tissue starvation and nutrient debility. The same dyspepsia and bowel derangements follow. Then follows drug-taking or special foods, and soon opium is discovered and adopted as a remedy. The same poisonous waste products appear from deranged assimilation; also, elimination and the nerve centres are deranged by these new and dangerous chemical compounds. The class of persons who, from simple neglect, become diseased are often the very poor and ignorant, or some division of the great army of borderliners, who live both mentally and physically on the very frontiers of sanity and insanity. Such persons clearly suffer from many and various forms of auto-intoxications, and this is proven inductively by the result of eliminative treatment. In all of these cases of nutrient neglect, many favoring conditions encourage the use of opium. These cases are numerous and comprise a large part of the invalids, hypochondriacs, and chronic drug-takers who are seen in our offices and at the dispensaries. They are all practically suffering from faulty assimilations, and faulty eliminations and the irritation of retained poisonous compounds. Opium is a remedy of positive force in covering up the protests of the defective cells and irritable nerves. Often these cases are concealed and are partly the result of previous disorder, and partially acquired from the effects of opium.

Next to this class of nutrient sufferers who become opium-takers, are those who have some entailment of disease or injury. In their history it will appear that some stage of invalidism was present, dating from brain, nerve or bodily injury. Fevers, heat, or sunstrokes, brain shocks from any source which are followed by unconsciousness, or marked mental perturbations, with exhaustion, and also a profound lowering of all the vital forces. These and other events have left damaged functional and organic activities, manifest in various neuralgias and physical disturbances.

The use of opium conceals and covers up this trouble. Many veterans of the late war have become opium maniacs for the relief of their pains and sufferings, and this is often concealed where it might possibly peril the procuring of a pension. The pension bureau should recognize the use of opium as a natural sequence and entailment following the disease and injury in the service. In Prussia

both alcohol and opium inebriety are treated as diseases when occurring in the army or civil service. The suffering and hardships growing out of the war has been the exciting cause of a great many opium cases. Many persons who have no special nerve diathesis in their history, after some severe illness, injury, or mental strain exhibit a degree of nerve instability and feebleness that is significant of serious organic change. Such persons manifest perversions of taste, with delusions of foods and medicines, and are on the border-lines of narcomania, ready to use any food or drugs which will bring even transient relief. The use of opium is always perilous. Why all these and similar cases do not become opium-takers, is owing to the absence of some diathesis inherited or acquired.

We can see some of the many complex causes favoring brain and nerve strain, with rapid exhaustion and degeneration, and the interchangeability of nerve diseases, in which the use of opium is only another form of the same disease. But we cannot yet trace the early causes and cell-conditions which develop the opium craze. This morbid impulse, like the delirious thirst for water on a desert plain, completely dominates all reason and so-called will-power, and every consideration of life and surroundings. It is more than an accident, more than a failure to reason and act wisely; it is a disease, an organized march of dissolution. The demand for opium is only a symptom; the removal of opium is not the cure. Some central brain-degeneration has begun and is going on. Narcomania, a morbid thirst for any solids or fluids that will produce neuroses, is the general name, and opium mania is only one member of this family.

In this study the fact is emphasized that the opium disease appears most frequently in persons who have a neurotic and opium diathesis, and also in persons who are suffering from nutrient disturbances, and those who are invalids or have some entailment of previous disease and injury; also that certain diseases and symptoms seem to furnish favoring soils for its growth and development. While these are but faint outlines of many unknown facts, they are urged as starting-points from which to base other and more accurate studies. The medical treatment from this point of view is very suggestive. Obviously the removal of the opium is not the cure. The various methods of removal detailed with great exactness, as if they would apply to each case, are unfortunate reflections of the failure of the writers, and are based on the assumption that all cases are the same, and the removal of opium is the great essential in the treatment. Basing the treatment on the clinical study of the case, it will be evident that where an opium diathesis exists, the withdrawal of opium should be very gradual. The treatment and surroundings should be arranged with great care and exactness. Such persons should live in an institution for years, or be under constant medical care. The danger of relapse and the future of such cases will depend entirely on the conditions of life and surroundings. Rapid reduction and any heroic treatment is never permanent, even with the consent of the patient. Specifics, faith cures, or any measures that promise speedy cures, are failures from the beginning. The road back to approximate health is straight and narrow, and only along lines of applied science. Where the history of a *neurotic diathesis* is present, the withdrawal of the opium should be equally slow.

More attention must be paid to the brain and nerve nutrition. The removal of opium may be followed by the appearance of very serious disorders, such as epilepsy, hysteria, complex neuralgias and paranoeics phases, alcoholism, and various other neuroses. The slow withdrawal of opium enables one to discover and anticipate these neurotic troubles which have been masked before. In one case, suicidal melancholy; in another, hyperæmia of the brain, with delusions; in the third, irritation and delirium; in the fourth, hysterical spasms appeared when the opium was removed. I have seen two cases of general paralysis suddenly spring into great activity after the opium was taken away. This condition was not suspected before. Alcoholism is a very common sequel after the removal of the opium. *Cocaine, chloral,* and almost every drug that has narcotic properties, are also very common entailments. While these are extreme cases, they are likely to be formed at any time. Great care should be exercised in using other narcotics to lessen the irritation from the withdrawal of this drug. Foods and tonics should be given. These cases require the same general treatment as neurasthenia and other states of brain exhaustion. They are drug-takers, and will resort to anything for relief. They are secretive, and require more care and more mental remedies, with long, exact hygienic surroundings.

Where the opium addiction has apparently come from bad nutrition and faulty elimination, with auto-intoxication, the treatment is very hopeful. A long preliminary

course of baths, mineral waters, and tonics should precede the removal of opium. Then the opium may be removed at once, without the knowledge of the patient. In proper surroundings with frequent baths, little danger of relapse or suffering will follow. Careful study and treatment of nutrition and digestion will fully restore the case, and relapse seldom occurs except from failure or neglect of the surroundings.

In the last class, where opium is taken and apparently follows from the entailment of some injury or disease, or the exhaustion of old age, a preliminary period of treatment seems to be required. Often the opium can be abandoned at once for some milder narcotic, and from this by gradations, discontinued entirely. Full knowledge of the diseased states present will always suggest the lines of treatment. In some cases the opium should not be removed; its diminution and concealment is required. In others, its rapid removal is essential. Many varied and difficult questions will appear in these cases. The more accurately the diseased states, also predisposing and exciting causes, the diathesis, and varied influences which have caused opium to be used, are studied, the more accurate the treatment. As in many other diseases, the causes may be anticipated, also neutralized and prevented. Opium-taking should be seen as a symptom; remove or break up the cause, and this symptom disappears.

Routine treatment, either by slow or rapid reduction of the opium, is not wise. The substitution of other narcotics is equally unwise. In a number of cases the withdrawal of opium only unmasks more serious diseases, and is positively wrong. A case of general paresis is now under treatment for the opium addiction. Before this opium addiction began the patient caused great distress by his delusions and extravagantly strange conduct. This treatment was wrong. A rheumatic woman of seventy is going through the same course to be free from opium, which has made life tolerable for ten years past. The treatment of opium mania is something more than the application of means and remedies for withdrawal of the drug with the least suffering. The symptomatology and organic lesions often date back to other causes more complex than opium. The treatment must begin by their removal. The general or special diathesis must be treated; the nutritive disorders, intoxications, and starvations must be recognized and removed. The influence of pathological states from previous disease and injury must be ascertained and treated. The power of environment, climate, occupation, and idiosyncrasies are also powerful factors to be considered.

These are the essential facts and conditions which must enter into the practical treatment. Among the many important problems, that of prevention promises the greatest possibilities. A recognition of the neurotic diathesis and other predisposing causes would enable the physicians to successfully guard against its approach.

The successful *stamping* out of both this and the alcoholic disease will be a reality in the future.

It is evident that the opium disease is still an undiscovered country, and the few student experts have not yet passed beyond its frontiers. This disease is all about us and may invade our homes and firesides any time, and *hence* demands recognition and most careful study; above all, ethical and moral levels. Its laws of growth, development, treatment, and curability all follow the great highway of evolution and dissolution.—(*For discussion, see Society Reports.*)

BROMIDE OF BISMUTH.

This salt has several times been experimented with by physicians of our acquaintance. Small quantities of it were prepared for their use by allowing powdered bismuth and bromine to act together in presence of a little water, driving off the excess of bromine by a current of air and subliming, or rather distilling, the residue.

Victor Meyer has recently published a note on this compound (*Annalen*, 264, 122). He prepared it by gradually adding *finely* powdered bismuth to bromine contained in a retort.

The combination of the two elements takes place slowly, several days being required, at the ordinary temperature, to complete the reaction. The mixture is then distilled, bromine and bromide of bismuth passing over, and a considerable amount of bismuth remaining behind. The latter is again powdered and treated in the same manner. To obtain the bismuth bromide pure, it must be distilled several times. It is finally obtained as a handsome orange-red mass, of a radiately-crystalline or grape-like form. It can be boiled, without decomposition, for many hours, in a flask provided with an upright condenser. Its vapor is deep red, very much like that of suphur or phosphorus sulphide.—*Amer. Drug.*

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting January 27, 1892.

Dr. T. D. Crothers read a paper on "Some New Studies of the Opium Disease." (See p. 372.)

DISCUSSION.

Dr. Thomas J. Mays: This theme has been one of intense interest to me, but I do not feel prepared to discuss the subject. There is, however, one point to which I should like to refer, and that is the relation between opium-taking and pulmonary consumption. We know that there is a strong affinity between alcoholism and consumption, and I would ask Dr. Crothers whether he has observed a similar relation between opium-taking and pulmonary consumption.

Dr. Joseph Hoffman: Looking at this subject from the medical side, I would say that I have taken some trouble to ascertain the frequency with which opium is prescribed by the general practitioner. The ordinary prescription-file of the drug store will show that three out of five of the prescriptions contain opium in some form or other, and I think that more than a little of the responsibility for opium-eating lies at the physician's door. It is prescribed without any attempt at cure, for opium has few curative effects, especially in acute disease.

The question arises, When should opium be used in surgical work? In shock, opium will not effect a cure, except in so far as it relieves pain, and if pain is the only thing to be remedied, often we have the remedy in opium. In cases where the pain is self-limited there is a great divergence of opinion as to whether opium should be used or not. In abdominal surgery we must refuse to use it. In these cases opium, instead of being beneficial, is harmful. Although it lulls pain, it produces much after-discomfort. There may be cases in which you cannot do without it; these are the undiscovered cases of opium-eating. In these cases the surgeon has to choose the lesser of two evils. Opium is injurious not only from its physical effect, but also from its moral influence. Take a patient broken-down with pain, add the pain of operation, and give a drug which destroys the power of self-control, and you introduce a semi-hysterical element which causes unending trouble.

In surgery there are better anodynes than opium. I have found the hydro-bromate of hyoscine to be preferable; it does not cause constipation, and thereby increase the tympany, as does opium; its only bad effect is to diminish secretion. By avoiding the use of opium we secure benefit by toning up the patient. In shock, strychnine will at once put the patient to the point of enduring the pain without any subsequent discomfort.

Dr. M. Price: The responsibility of the opium habit can, I think, be referred directly back to the physician. He begins by relieving the pain, and not only does so, but tells the patient what he is using for that purpose. I cannot speak in regard to the neurotic diathesis, but some of the best developed, and apparently best balanced, patients that I have had, so far as external appearances were concerned, were addicted to the opium habit, and some of them are still addicted to it. If the physician is forced to give opium, he should give it secretly.

As has been said, opium, by its stupefying influence upon the nervous system, covers up and masks the symptoms. The physician also is lulled into a feeling of security, and does not recognize the destructive changes that are taking place, and is only awakened when he finds his patient absolutely dying. I have seen cases of appendicitis where the physician thought that the patient was improving, and yet the abdomen was full of pus and the patient dying. The opium had not only quieted the patient, but also lulled the doctor into a feeling of security. Not only in appendicitis, but in other surgical conditions, where the pain and discomfort is so great as to call for the use of opium, something should be done instead of giving opium, unless the patient is past relief; there opium is proper enough. In abdominal surgery we have come to the firm conviction that opium is uncalled for except where the opium habit has been established.

Dr. J. P. Crozer Griffith: I stand here to-night feeling somewhat alone, since I intend to take issue in some respects with what has already been said in the discussion, and to consider the matter from the standpoint of the physician, rather than that of the surgeon. I agree fully with nearly all that was told us in the papers of the evening regarding the dangers of opium, and assent as well to the statements of Drs. Price and Hoffman, that in nearly every case of the opium habit the physician is probably responsible. At the same time one cannot but be impressed with the feeling that one of

the laity, strolling in here to-night, would leave with the thought that opium is an unmitigated evil, a drug which should never be employed under any circumstances whatever, inasmuch as it never did anything but harm. Every unprejudiced physician can only regard this as radically wrong. I say it after mature deliberation, and not on the spur of the moment, but still I say it, that were I compelled to select one drug from the entire list in the Pharmacopœia, and confine myself to its use alone, I would unhesitatingly choose opium.

And though in this I am at variance with what we so often hear uttered in discussions in this Society, yet I trust I am not an antiquated fogy, and I know I try to keep abreast of the times. It has been urged that opium rarely cures disease, but only relieves symptoms, at the same time that it disguises them. I should like to inquire how many drugs in the Pharmacopœia really cure; certainly there are very few. As educated physicians, we hesitate to say that we have *cured* our patients. All that we expect to do is to guide our cases to recovery. I have no reference in this connection to the employment of surgical interference. Were it true that opium never had any powers but those of relief, there would, therefore, be no objection to its use on this score. Well aware of the dangers of the opium habit, I would hesitate long before beginning the employment of the drug in cases which were certain to run a somewhat chronic course, yet in which there was hope of recovery. Dujardin-Beaumetz has made the statement that thirty days' continuous use of opium will make an habitué of anyone. In the light of what has been said in the latter of the two papers of the evening, this is, perhaps, an over-statement. It at least expresses the opinion of an excellent French authority.

There are cases in which the greatest fanatic will probably admit that it is our duty to administer opium in some form. Among these are hopeless cases of cancer. It is true that the drug gradually loses its effect, and that the dose must constantly be increased. But in no other way can existence be made even tolerable. I believe, too, that it is almost a sin to omit the employment of opium in the last stages of many cases of phthisis. The statement has been made in text-books that opium is poison to patients with phthisis. While this may be true in theory, it is eminently untrue in practice. Of course, I have no reference to phthisis in the early stage. There is no question that in this stage we should defer employing it, trying other measures for relief, and devoting our attention to the cure of the disease.

While it is true that opium may occasionally cause—perhaps it is better to say *be followed by*—suppression of urine, dyspnœa, and other unpleasant and dangerous symptoms, we should not totally abandon its employment on this account. I have a patient in whom five drops of tincture of nux vomica is always followed by unpleasant evidences of the physiological action of strychnine, but I shall not on that account refuse to give nux vomica in other cases. I have seen retention of urine follow the application of turpentine stupes, but shall not for that reason abandon their use. So numerous drug-idiosyncrasies exist, that the man who inordinately fears them will never give anything, and had better retire from the profession.

As there are a number of gynæcologists present, I am ready to admit at once that I understand very little about abdominal surgery. But as a physician it is my duty to have some opinions about peritonitis. In former years, before the diagnosis of pathological conditions of the abdomen had so degenerated that it became necessary to cut the patient open in order to discover what was the matter, there were physicians who possessed sufficient diagnostic acumen to recognize peritonitis without this interior inspection. Dr. Alonzo Clark was one of these. Unfortunately for him, he died before he had the full opportunity of learning from the later lights concerning the avoidance of opium in peritonitis and the proper treatment of the affection, and he claimed that in some way it was partially curative. It was his custom to administer opium in very large doses in this disease. Doubtless it was very stupid of him to persist in this practice, but strange to say his cases recovered. It may, after all, not appear so strange when we call to mind that the use of depletives in peritonitis, including laxatives in some cases, had been in vogue up to that time, and with results far inferior to those of Dr. Clark's. For my part, I have yet to hear of any method of treatment which supersedes the administration of opium in this affection—not as a calmative agent, but as a curative one as well. Of course, there are cases in which every physician would counsel operation; but this is in no wise a sanction to indiscriminate laparotomy.

With regard to what has been said about opium in peritonitis beguiling the physician into a sense of false security, it is, of course, necessary that the attendant should have his wits about him, and realize that the drug is

liable to disguise the symptoms by relieving pain. I think, however, that there are other factors than the sensation of pain to indicate the existence of danger-signals.

Then, again, we must not forget that it is often impossible to obtain consent for an operation, however desirable this procedure may appear. In such cases we wish to be familiar with some method of treatment other than the employment of the knife. We shall sometimes be surprised by the recovery under the administration of opium of cases which we deemed hopeless without operation.

DR. W. M. CAPP: It is to be remembered that the physician is often hurriedly summoned to patients with acute symptoms and in great suffering, and it is from these that relief is sought. Generally speaking, it is well to say that we should sit down and study the case, to discover the cause of the suffering, and remove it, so that relief will naturally follow; but practically something more speedy is demanded, and a narcotic may be useful to tide the patient over what would be a critical period of suffering.

Dr. Crothers's paper was very interesting, but I do not know that we can agree with him in substituting the word disease for the word habit in all cases of opium addiction. I think that in many cases the use of opium is simply a habit, in no respect different from the alcohol or the tobacco habit. There are some persons with such weak will-power that they go through life dominated by a habit of some kind. The remark that the physician is largely responsible for the prevalence of the *improper* use of opium is rather too general. It is too sweeping an assertion to say that the physicians are responsible in all cases. It has also been intimated that from the frequency with which opium is prescribed we can easily account for the large quantity which is imported. This is too broad a statement to emanate from a society of this kind. Let me refer to one single fact. It is generally known that almost all patent medicines contain opium, and that there is no country in which so large a quantity of these nostrums is consumed. In their manufacture a large quantity of this drug is used, and it is but a short step from the use of narcotic patent medicines to the direct use of opium. There are many ways other than by the prescriptions of physicians by which people become addicted to the use of opium.

DR. EDWARD JACKSON: The power of opium to cover up symptoms has been mentioned. This is something more than the power to prevent pain by an action on the peripheral nerves or on the centres themselves. I have seen this illustrated in some cases of insufficiency of the eye muscles. I have one patient with hyperphoria of six centrads, who has suffered much from headache and other effects of eye-strain. If she takes three-fourths of a grain of opium, the hyperphoria entirely disappears. She is not hysterical and is not an opium habitué; she goes many weeks and even months without a single dose. For several hours after taking the opium the conditions of nervous action are so radically changed that the hyperphoria no longer exists, so far as we can in any way discover it. My attention was called to a similar case by my friend, Dr. Charles H. Thomas. In these cases there is certainly some peculiar effect on the coördination of nerve impulses, so that both the pain and also its cause are for the time removed.

In regard to the lessened importation of opium, it occurred to me that this might be connected with the introduction of hyosine and some of the coal-tar derivatives, and their wide use by both the profession and laity; also with the attack led by the abdominal surgeons on the use of opium in what was formerly regarded as its peculiar province, the abdominal inflammations.

DR. WILLIAM H. WELCH: A celebrated physician of this city once said he could count on the fingers of one hand all the drugs that he had found of real use in his practice, and he would place opium at the head of the list. Now I feel very much the same way. Of course, I recognize the fact that opium, like alcohol, is greatly abused; but I would not be willing to give up either on that account. I have met with a number of persons who have become habituated to the use of opium, but I have seen only one case in which I have aided in breaking off the use of the drug. This patient was a nurse, who had contracted the habit voluntarily. He began the use of morphine to induce sleep, after having met with a bereavement in his family. I think he also suffered from neuralgia. He gradually increased the dose up to two grains a day. After continuing this for two years he decided to give it up, and so he gradually diminished the daily dose for four days, when he discontinued entirely. To relieve the pain in his extremities, he took antipyrine and also bromide of sodium to promote sleep. After abstaining from its use for several months, he went on a visit to New York, and while there was taken with cholera morbus. He applied to the nearest drug-store for relief, and the druggist gave him a mixture contain-

ing opium in some form. From this time he returned to the use of morphine, and soon reached a daily dose of four grains. After continuing the use of the drug now for two years longer, he again resolved to break off the habit, and this time placed himself under my care. It is unnecessary to recite in detail the symptoms that followed, but the extreme muscular weakness was very surprising, especially when we consider that the daily dose was only four grains. In a few days after discontinuing the drug he became absolutely helpless; he could not feed himself, and could not hold in his hand even a glass of water. He became delirious. In the course of two weeks he began to improve, but it was three weeks before he was able to resume his duties. I should add that he took bromide of sodium very freely, and some critics have suggested that the extreme muscular weakness may have been due to this drug. He, however, showed the weakness before the bromide was taken. He took as much as two hundred and forty grains of the bromide daily for several days. I know nothing of his family history, but so far as the individual himself is concerned, there appears to be no neurotic element in the case. It has now been two years since he stopped the drug, and he tells me he has not returned to its use. But these people often practise so much deception that I cannot be absolutely sure on this point.

Dr. T. B. Schneidemann: I recall a valuable little book, now out of print, by Professor Fiske, of Harvard, on alcohol and tobacco. The title-page bears the legends, "I. It Does Pay to Smoke." "II. The Coming Man will Drink Wine." The author is at some pains to define the difference between a stimulant dose and a narcotic dose, the former being such an amount as nourishes or facilitates the normal nutrition of the nervous system, restoring its equilibrium, enabling it with diminished effort to discharge its natural functions. Such a dose, moreover, has no evil after-effect—"reaction"—which belongs only to a narcotic dose, the term over-stimulation being a misnomer, and imported into physiology from *à priori* reasoning. As a stimulant, he declares that these substances diminish the friction of life, and are useful adjuncts to civilization, and that the dose does not have to be increased, and that their use may be dispensed with at any time without exciting morbid craving. Fiske's views are essentially those of Anstie.

Dr. T. Ridgway Barker: There is one point in Dr. Crother's paper that impressed me, and that is the importance of hereditary predisposition. This belongs to what is known as the interchangeable neuroses. If the histories of cases are more carefully examined, we shall find that inherited tendencies have a great deal to do with the use of narcotics and stimulants.

I think the physician should not wholly escape from the charge of too frequently prescribing morphine and other narcotics. It is not uncommon in cases associated with pain for the physician to take from his hypodermatic case tablets of morphine, and instruct the patient to take one every hour or so, according to circumstances. The patient is aware of the nature of the drug and may acquire the habit.

In cases of post-partum hæmorrhage one-drachm doses of tincture of opium certainly have a happy effect. Even where the patient is almost exsanguined, she may recover.

I was glad to hear the recommendation of Dr. Crothers in regard to the gradual diminution of the dose, thus disturbing less markedly the nervous system.

Dr. Hoffman: Very little weight can be attached to the recommendations or argument that certain men used opium twenty or twenty-five years ago with good results. There is no doubt that in certain acute painful diseases opium is indicated, as in rheumatism, the passage of a stone, and in neuralgia. When the surgeon talks about peritonitis, he talks about something he knows, while the general practitioner talks about something he imagines. Nine-tenths of the cases of so-called peritonitis are not peritonitis at all. When the abdominal surgeon opens the abdomen, he makes a peritonitis, for the reparation is due to inflammation. In these cases, no matter how great the swelling and pain, it passes away under the use of salines or calomel. I think that here we have the vantage ground of the argument, for we know what we have done, and we have the results.

Dr. M. Price: I should like to call attention to the statement in regard to the general practitioner and peritonitis. When the physician gets a case of peritonitis that he thinks is going to die, he refers it to the surgeon. The very men who are boasting of their twenty or thirty cures of peritonitis are the men who are referring to the surgeon their fatal cases with quarts of pus in the abdomen. When we cure from 93 to 97 per cent. of the cases that they give up, I think that we have the best of the argument. A case was recently reported from Buffalo of a girl ten years of age treated with mor-

phine for fourteen days, the daily dose finally reaching twenty-five grains. The temperature had disappeared five days before this dose was reached. They then gave her a saline; they had given salines before, but the child vomited it. I cannot understand such peritonitis. Here must be some neuralgic or nervous condition mistaken for peritonitis.

Dr. WERNER: The remarks of Dr. Crothers seem to reinforce my position, that when indicated opium should be given with great care, and in such a way that the patient does not know that he is taking opium. Some years ago I was called to see a child one month old. I found it in convulsions, with contracted pupils; the child had previously been well. I asked if they had given any medicine. They at first denied that they had, but subsequently admitted that a neighbor had given the child a dose of medicine for colic. The child died in less than twenty-four hours, and subsequent investigation showed that it had received an eighth of a grain of morphine.

Another case I recall is that of a young girl of strumous diathesis, who had been treated for various troubles, and finally, going to a gynæcologist, a stem pessary was introduced. She came to me, I removed the pessary, and found the uterus and broad ligaments swollen and extremely sensitive; there was menstrual pain. She was placed at rest, with suitable treatment and improved. Being a working girl, she is compelled to be much on her feet, and soon all the old pains returned. I told her that if she could rest she might be comfortable, but that otherwise it would be necessary to remove the diseased appendages. She refused operation, and the last time I saw her she told me a friend promised to give her some powders, which she thought contained morphine. I explained the dangers to her, but in spite of that she is takling the morphine; I do not know what the result will be.

These cases are sufficient to show the necessity of calling a halt. Prescriptions should not be allowed to be renewed at random. The cases for the use of opium are rare, and should be carefully selected, and the physician should give the dose himself.

I fully agree with the remarks made by Drs. Price and Hoffman regarding the use of opium in abdominal work, and feel certain that many lives are saved by having given up its use; it has certainly often lulled both patient and physician into a dangerous feeling of security until it was too late. I recall one case of septic peritonitis, which I saw in consultation. Although the patient was comfortable after calomel and salines, I knew from the pulse and temperature that there was pus, and suggested operation. The family physician refused operation unless I could show him that pus was present. I agreed to remain in attendance, provided opium was not given. On Wednesday he gave the first dose of opium, for what reason I do not know; there was no pain and there were daily movements. After the opium, distension of the abdomen occurred, and death the following Sunday. In these days, when we are trying to have cleanliness in everything, why should we shrink from giving salines and clearing the bowel of any foul material? Why should we block the bowels with opium when we know that the products are reabsorbed? These are questions I should be glad to have answered from the other side.

DR. CROTHERS, of Hartford, Conn.: The interest which this subject has excited is very pleasing to me. The point which I tried to make clear is that these are neurotic cases, either acquired or inherited, and that we should treat them as such, and bear this fact in mind in our use of opium. If we have a neurotic case, we should remember this predilection to the opium habit.

Dr. Mays was among the pioneers who exemplied the close connection between alcoholism and consumption, and between opium-taking and consumption. Phthisis, alcoholism, opium-taking and a host of other affections are neurotic conditions, and interchangeable one with the other.

I have strongly objected to the word habit, because its exact meaning is not understood. We use the word in its common sense and not in its scientific sense.

There are many reasons for the discrepancy between the quantity of opium imported and the quantity used legitimately. It shows that opium-taking is increasing, and that opium is used in various secretive ways.

I think that there are no physicians in general practice who will not regard opium as a bad remedy. I think that the statement that it is one of our chief remedies will be confirmed by all. It is, however, clear that it should be given with great caution and its use concealed from the patient's knowledge. We cannot dispense with it under any circumstances. My principal point has been to call attention to the neurotic character of these cases and not to disparage the use of opium.

With regard to the treatment of opium cases, we come to a wide field which the general practioner is not quite ready to enter. The routine treatment of diminishing the

quantity of opium as the only plan of cure employed must be abandoned. Opium must be retained or diminished according to the case. In some cases it would shorten life if the opium were diminished. In the large proportion of cases, however, the opium can be removed. The routine plan of diminishing the opium gradually or rapidly is largely empirical. No one should undertake the opium-treatment without knowing the diathesis and condition of his case, and then the question of the removal or diminution of the opium becomes clear and the result satisfactory.

SELECTED FORMULÆ.

THE KEELEY CURE.

Dr. H. E. Whitsey writes to the *Medical World* that the following produces a mixture which comes very close to the much-vaunted one used by Keeley:

℞
Sodio-auric chloride.....gr. xij.
Ammonium chloride.....gr. vj.
Strychnine nitrate.....gr. j.
Atropine.....gr. ¼.
Extract cinchona comp. fluid.....3 iij.
Extract coca fluid.....3 j.
Glycerine.....3 j.
Water.....3 j.

M. Sig. Take a teaspoonful every two hours when awake. And the following hypodermic injection every four hours: 1-10 grain of the chloride of gold and sodium and 1-40 grain of the nitrate of strychnine.

This will produce the same symptoms and same results as the Keeley cure.

ECZEMA.

℞
Papoid.....gr. xij.
Pulv. boracic acid.....gr. v.
Aquæ destil.....3 ij.

Ft. solution. Sig. To be painted on the parts twice daily.

This is a successful application in cases of eczema, psoriasis and callosities of the epidermis.

LOCAL ANÆSTHESIA FOR SLIGHT OPERATIONS.

℞
Chloroform.....10 parts.
Sulphuric ether.....15 "
Menthol.....1 "

M. Sig. To be used with an atomizer. The anæsthesia lasts from two to ten minutes.

—*Medical News.*

ACUTE TONSILLITIS.

Dr. A. Martin (*La Semaine médicale*, No. 55, 1891) speaks highly of the following:

℞
Acid carbolic, } ..... aa gramme 1.
Camphor, }
Glycerine, } ..... aa grammes 50.
Aq. destillat., }

Three or four local applications a day.

ECZEMA OF THE ANUS AND SCROTUM

Unna recommends the following:

℞
Olei lini.,
Aquæ calcis,
Zinci oxidi.....aa 3 j.
Iodoformi.....ʒ ij [3 iss.

M. Sig. Apply locally.

—*L' Union Médicale.*

CHRONIC DIARRHŒA WITH INTESTINAL FERMENTATION.

℞
Salol.....3 parts.
Ol. ricini.....15 "
Symp rhei.....30 "
Gum arabic qs.,
Aquæ destil.....120 "

M. S. Tablespoonful every hour till bowels move.

—*Le Prog. Med.*

HÆMOPTYSIS.

(PEPPER.)

℞
Acidi gallici.....2 drams.
Acid sulph. aromat.....1 dram.
Glycerine.....1 ounce.
Aq. dest., enough for.....4 ounces.

M. Sig. Teaspoonful at dose—repeat frequently.

NERVOUS COUGH.

Prof. Bartholow frequently orders:

℞
Acidi hydrocyanic dil.....3 j.
Tinct. sanguinariæ.....3 ss.
Syr. senegæ.....3 iv.
Aquæ lauro-cerasi.....3 vij.
Syr. tolu.....3 ij.

M. Sig. From ten drops to a teaspoonful every four hours, according to the age of the patient.

ERYSIPELIS.

℞
Acid carbolic.....½ drachm.
Tr. iodine.....½ "
Alcohol.....½ "
Turpentine.....1 ounce.
Glycerin.....3 ounces.

M. Sig. Apply with camel's hair pencil several times daily, or on a soft cloth.

—*Ind. Pharm.*

ANTISEPTIC TREATMENT OF CHRONIC DIARRHŒA.

This consists in the employment of enemata of salicylic acid solutions and in the administration of rhubarb by the mouth.

℞
Acid salicyl.....gramme 1.
Aquæ destil.....grammes 500.
Alcohol, q. s.

M. Sig. For one rectal injection.

This is injected through a long tube. The injection is repeated several times a day.

The formula containing the rhubarb is as follows:

℞
Salol.....grammes 4.
Ol. ricini....." 20.
Syrup. rhei....." 40.
Aquæ cinnamon....." 150.
Gum arabic, q. s.

M. Sig. Tablespoonful every hour till the effect is produced.

For diet, milk, eggs, etc., are ordered.—*France Med.—Rev. Int. Bib.*

THE
MEDICAL AND SURGICAL
REPORTER.

ISSUED EVERY SATURDAY.

THE BUTLER PUBLISHING CO. (Incorporated)
PROPRIETOR AND PUBLISHER.

DIRECT ALL COMMUNICATIONS TO
P. O. Box 843, Philadelphia, Pa.

EDWARD T. REICHERT, M. D., Editor,
(Professor of Physiology, University of Penna.)

CHARLES K. MOUNT, Advertising Manager.

TERMS: Five dollars a year, strictly in advance, unless otherwise specifically agreed upon. Sent three months on trial for $1.00.

REMITTANCES should be made payable to the BUTLER PUBLISHING CO., and when in sums of five dollars or less should be made by Postal Note, Money Order or Registered letter.

Pocket Record and Visiting List.

Two sizes. Prices to Subscribers of THE REPORTER.
For 30 patients a week (with or without dates),..... $1.00
For 60 patients a week (without dates)..... 1.25
Prices to non-subscribers, $1.25 and $1.50 respectively.

The Model Ledger.

Physicians who keep their own books will find this of great value. It enables the Physician to make out his bills with great ease and gives at a glance the amount earned, received and due in any quarter. Sample pages sent on application. Price, $5.00.

Binders.

Patent binders for the Reporter, each lettered on the back in gilt "The Medical and Surgical Reporter" and made to hold the issues of six months. Price, 50 cents.

Vaccine Matter.

Bovine Crusts,..... $1.50 each.
Bovine Points or Quills,..... 1.00 a doz.
Humanized Crusts,..... 1.00 small.
Humanized Crusts,..... 2.00 large.
Guaranteed in every respect.

Books.

Books will be supplied to our subscribers, transportation prepaid, at the regular prices.

☞ Please accompany orders with the money, and address all communications to

The Butler Publishing Co.,
P. O. BOX 843. PHILADELPHIA, PA.

LEADING ARTICLE.

CHLORALAMIDE AS A HYPNOTIC.

The powerful hypnotic properties of chloral have rendered it one of the most valuable agents in the Pharmacopœia, but its use has been restricted, owing chiefly to its decided depressant action on the circulation and the consequent serious results that have from time to time been observed. A number of endeavors have been made to so modify the chloral molecule that its hypnotic properties should be retained and other undesirable actions eliminated, as well to add some new and desirable actions. During the last few years we have had offered to us a number of such compounds, notably among them being *somnal*, *hypnal* and *chloralamide*. Somnal is a liquid discovered by Radlauer, who claims it to be a distinct chemical compound resulting from the mixture of chloral, alcohol and urethane, and to have the formula of $C_7H_{13}Cl_3O_2N$. Hypnal is a combination of chloral and antipyrine molecules, and is chemically a mono-chloral-antipyrine. Chloralamide was introduced by Mering. It was hoped by the introduction of an amide molecule into that of chloral that the depressant effects of the latter upon the circulation might be replaced by those of the opposite character of ammonia. Since formamide contained the largest amount of ammonia of all the amides it was selected, and upon being mixed with chloral-anhydride gives rise to chloralamide, or what is properly speaking chloral-formamide.

The first reports of the clinical use of this substance appeared in August, 1889, and since that time sufficient statistics have accumulated to enable us to reach fairly definite conclusions as to its probable value in clinical medicine. Without mentioning isolated cases we will refer to the results of a number of investigations which have a special value chiefly owing to the large number of cases studied.

Hagen and Hüfler employed it 118 times in twenty-four sick and four healthy persons. Twenty-six of the number on whom the

drug was tried gave good results. The doses ranged from thirty to forty-five grains. Women appeared to be more susceptible than men. As a result of these observations they concluded that chloralamide was a powerful hypnotic and equal to chloral. In one case they noted collapse. Reichmann found that two or three grammes were sufficient to produce deep sleep. Rabow employed it in fifty-two instances, and in but few was there any failure or unpleasant after-effects. Peiper used seventy-six doses in twenty-four cases, and states that he found it a good hypnotic, but not absolutely reliable; that its action begins within thirty or forty minutes after the dose; that it is of value in a large range of cases; that children are very susceptible to it; and that headache, vertigo and weakness of the joints occasionally are sequelæ. Alt noted twelve failures in forty-one cases.

Halasy, from an experience of one hundred and ninety-one administrations in thirty-five persons with various maladies, concluded, that chloralamide is a good hypnotic, but not absolutely sure in its action; that in cases of insomnia caused by pain or cough it is rarely efficient; that it exercises an unfavorable effect on the heart and circulation; that it cannot be prescribed with safety in cardiac lesions; that its ingestion is sometimes followed by disagreeable secondary symptoms, such as headache, vertigo, lassitude and dryness of the throat, although none of a serious character; and that in some cases it induces disorders of digestion and vomiting. He did not observe any cumulative action.

Osler used it in fifty cases to which one hundred and eighty-six doses were given. Forty were poor sleepers, and ten were not troubled with sleeplessness. The list of diseases with which some of these individuals were affected embraced phthisis, cardiac disease, chronic nervous affections, diabetes, aneurism, typhoid fever, pneumonia, bronchitis, etc. The dose varied from ten to sixty grains, both in single and divided doses. The results he classifies under three heads: those in which there was an undoubted hypnotic action; those in which the action was uncertain; and those in which the results were unmistakably negative. Of the one hundred and eighty-six trials, eighty-six, or 46.32 per cent., showed positive results; eighty-five administrations, or 45.69 per cent., gave results of a doubtful character; and in fifteen trials the results were uncertain. In sixteen instances ill effects followed—headache in eight, a sense of being dazed and confused in four, and in two, mental derangement. Sleep followed within an hour, and generally within half an hour, in nearly every positive case. No cumulative action was noticed.

Robinson gave one hundred and fifty administrations in fifty persons. In thirteen the effect was good, in fourteen, passable, and in twenty-three, negative.

W. Hale White used it in twenty patients suffering from various illnesses, in all of whom insomnia was a troublesome symptom. The drug produced comfortable sleep in all the cases except two; one of these was suffering from delirium associated with cerebral hæmorrhage, and the other had rheumatic fever complicated with delirium tremens and salicylic acid poisoning. Both these patients died shortly after admission. Some of the other cases had extremely painful diseases, and yet chloralamide produced sleep. One woman who had a thoracic aneurism preferred it to morphine, and another patient who had carcinoma of the stomach also slept better with this drug than with morphine. The patient with carcinoma suffered intense pain, yet dozed comfortably after chloralamide. In general, both he and the attendants in the hospital found that the patients slept better after chloralamide than after any of the recently introduced hypnotics. In none of the twenty cases did any ill effects follow which could be looked upon as contra-indicating its use, nor did he ever observe any depressing results. The time elapsing between its administration and the beginning of sleep varied between a quarter of an hour and two or three hours. When given in the evening, the patient when once asleep usually slept till morning. Dr. White has noted, as have certain others, that after a dose in the

evening the patient sometimes does not go to sleep until the next morning, and then remains asleep all day. The reason for this action, he thinks, is to be found in a slow absorption owing to the feeble solubility of the drug in water (five hours are required to disolve twenty grains in two ounces of water). He always prescribes it with spirit—twenty grains are dissolved by one drachm of rectified spirit in fifteen minutes, and water may be added to this solution without precipitating the chloralamide. A good way of giving it is to dissolve it in a little brandy, add water to the liking of the patient, and drink shortly before going to bed. He also calls attention to the important fact that if given in milk, it is not only insoluble, but sticks to the sides and bottom of the glass, and is troublesome to swallow. Moreover, it should never be prescribed with alkalies or dissolved in hot water. Thirty grains he usually found sufficient. As a result of these trials he thinks that in chloralamide we have a safe hypnotic, which has hardly ever any depressing action, and which very rarely gives rise to any unpleasant after-effects.

Gerisch prescribed chloralamide in thirty-two cases, giving thirty grains at night. This dose was usually sufficient to induce sleep within a half hour. A more certain effect and longer sleep was obtained when forty-five to sixty grains were given. He considers chloralamide very valuable because of its decisiveness and the absence of unpleasantness. In sleeplessness due to pain, he states that the effects were negative. He also believes that it is not a dangerous body, but that headache and vomiting may occur after a very large dose. Digestion and the renal function were not affected, but the pulse generally became softer and more frequent. Umpfenbach employed it in fifty-five cases, twenty-three of which were men and the remainder women. In the greater number of them the results were everything that could be desired, although the symptoms in some cases were very severe. Considerable importance rests with the fact that in every instance the drug was well borne, even when taken for months together. No action on the circulation or genito-urinary system was detected, nor were there any symptoms of collapse. In one case it acted as an excitant. On the whole, he looks upon it as a decidedly useful hypnotic. In the insane wards of the Philadelphia Hospital it has had extensive use with the most satisfactory results.

Recently, Gordon has added a valuable contribution to the literature of this subject. His studies were made both on the lower animals and man. The following summary embodies the chief results of his observations:

1. The reflex irritability of the spinal cord was diminished. 2. Peripheral sensation was not reduced. 3. On frogs there were hypnotic action, slowed respiratory and cardiac actions, abolition of reflexes, and subsequent recovery of the normal condition. 4. Blood pressure was slowly reduced with large doses. 5. Pulse-rate was not affected. 6. Respirations were reduced and finally abolished. 7. The conductivity of motor nerves was destroyed, and was not restored by subsequent washing in salt solution. 8. The irritability of muscle substance was destroyed, and was not restored by subsequent washing in salt solution. 9. The excretion of urea was increased by small doses—0.3 to 0.6 gramme—but was diminished by large doses—2 to 3 grammes. 10. The excretion of phosphates was diminished with both large and small doses. 11. The excretion of the fluid constituents of the urine was not constantly affected by the smaller doses, but was diminished by the larger doses. 12. Reaction of urine was not influenced. 13. Color and odor of urine were not affected. 14. No albumen was detected. 15. Action on the skin was negative. 16. Temperature was not affected. 17. Digestion did not appear to be interfered with. 18. Hypnotic action in the healthy was induced with doses of 1.25 gramme and upward. 19. In painless insomnia the results were highly reliable. 20. In insomnia with moderate pain the results were fairly reliable. 21. In insomnia with acute pain it was not reliable. 22. The analgesic action was feeble. 23. The hypnotic effect followed usually within half an hour after exhibition. 24.

The sleep induced was tranquil, pleasant, and natural, and the awakening free from confusion or depression. 25. No deferred action. 26. No craving for the drug was noticed. 27. The point of tolerance was not readily reached. 28. The doses found most reliable were from 2 to 3 grammes. 29. Giddiness and incoördination and headache sometimes followed administration. 30. In senile insomnia, pulmonary diseases and hysteria the results were highly satisfactory.

Finally, we will refer to the experimental research of Prof. H. C. Wood and Dr. David Cerna. Their investigations were made solely on dogs, and their conclusions are as follows: Chloralamid has a slight local influence, and in large doses tends to produce mucous diarrhœa. It acts more powerfully upon the cerebral cortex than upon any other portion of the nervous system of voluntary life, thereby causing sleep and muscular relaxation; but it is also a feeble spinal depressant. It has a powerful influence upon the respiration, in moderate dose, by a centric action stimulating the respiratory-rate, and probably also increasing the actual amount of air breathed; but in toxic dose causing death by paralysis. Its influence upon the circulation is a very feeble one; the changes produced by small doses being probably secondary to other effects of the drug; toxic doses, however, depress the arterial pressure by direct action either upon the heart or upon the muscle coats in the arterioles. The results of their experiments indicate that chloralamide is very worthy of trial as a hypnotic. Its action upon the heart is so slight that it bids fair to be valuable as a hypnotic in cases of feeble heart; whilst its stimulating influence upon the respiration would seem to fit it for employment in cases of nervous exhaustion. Dr. H. C. Wood has used the remedy to a moderate extent in various forms of insomnia, and so far it has seemed to be slower and less certain in its action than is chloral. Rarely have unpleasant after-effects been noted, but he has seen in some cases distinct headache. The statement of Hagen and Hüfler that the drug is especially valuable in cardiac asthma seems to be consonant with Wood and Cerna's experimental conclusions.

While the results of the above investigations are by no means in strict accord, they are as consonant as could be hoped considering the indiscriminate use to which the drug has been put, and are, as a whole, no more discrepant than those obtained during the early clinical investigations with most therapeutic agents. A careful survey of these contributions in connection with many others not noted, shows that the more recent records place chloralamide on a very satisfactory basis; in other words, the clinician is learning in what cases this new hypnotic may be expected to afford entirely satisfactory results.

The clinical value of chloralamide is obviously largely to be determined by its efficiency compared with chloral, which it is intended to replace. Certainly we find in it essentially the same physiological characteristics, some of which being noticeably modified. Like chloral it is a hypnotic with feeble analgesic powers. It is a circulatory depressant, but feebler in its action, and is to be cautiously employed in conditions of circulatory depression. It seems undoubtedly less powerful and prompt in its actions than chloral, but, on the other hand, it is, perhaps, quite as certain. It, like chloral, may give rise to secondary symptoms, such as headache, vertigo, weakness, dryness of the throat, epistaxis, disorders of digestion, vomiting, collapse, mental derangement, etc. Children and women seem more susceptible to it than men. There seems to be no cumulative action; it is in most cases of no value where sleeplessness is dependent upon or associated with much pain; it is absorbed with relative slowness, the action beginning within 30 or 40 minutes; it is best given dissolved in a little brandy with sufficient water; it should never be given with milk, alkalies or hot water.

In conclusion, the actions of choralamide and chloral are essentially identical in character; chloralamide is less powerful and prompt as a hypnotic, but certainly acts less deleteriously on circulation—hence, it may be used with equal satisfaction in

of the cases where chloral is indicated, and in many in which the latter would not be safe. Chloralamide is certainly deserving of intelligent and thorough investigation, and will doubtless prove a valuable and permanent addition to our materia medica.

BOOK REVIEWS.

DISEASES OF THE MOUTH IN CHILDREN, (Non-surgical), by F. Forchheimer, M. D., Philadelphia. J. B. Lippincott & Co., 1892.

Prof. Forchheimer has brought together in book form, with suitable amplifications, his admirable and much commended essays on diseases of the mouth in children, which appeared in the *Archives of Pediatrics*. His persistent work in this direction and tireless calling attention to the woeful chaos of nomenclature, of pathological misconceptions and symptomatic misapprehensions, resulted in the appointment of a special committee by the President of the American Pediatric Association to revise all this. If he does no other thing of note in his professional career than to have written this excellent book, he will have earned a well deserved meed of praise at the hands of all medical practitioners.

He has made thoroughly comprehensible those not serious but ever present woes of the mouth, next to the stomach the most important part of young children, which rarely jeopardise life, but add so much to their discomfort (and to the solicitous household). He impresses the readers of his book with a determination to explore that prominent cavity with the confident expection of finding many things clear which aforetime were wrapped in doubt and obscurity.

Hereafter no writer on children's maladies, systematic or discursive, will have excuse to ignore or even fail to follow his simple classification, nor need we vex ourselves with the numberless *words* which served to hide so effectually the ignorance of those who follow old trails, nor fail to look for the lesion where it may reasonably be expected to be found. Thereupon, no longer need treatment be tentative and experimental.

Prof. Forchheimer, however, begins at the beginning, the origin of all successful medical thought, more especially, too, in infantile ailments, by a fundamental knowledge based on physiology, holding as he does that chair, as well as of Clinical Diseases of Children in the University of Ohio.

He is to be congratulated on having in the little volume of scarce two hundred pages made clear as noonday a subject till now burdened with effete and conflicting views.

CONSUMPTION—HOW TO PREVENT IT AND HOW TO LIVE WITH IT. By N. S. Davis, Jr., A. M., M. D., Professor of Principles and Practice of Medicine, Chicago, Ill., etc. F. A. Davis, publisher, Philadelphia and London, 1891. Price, 75 cents.

The difficulty in getting consumptives to observe proper sanitation and to carry out certain rules which are more or less in the nature of necessity for successful treatment, is the experience of every physician having anything to do with the management of this class of cases. This is due to some extent, as Dr. Davis intimates, to the difficulty of impressing by brief conversations the recognition of certain facts which are indispensable for their patients' welfare. This led the author to prepare for his patients a series of hygienic rules with brief explanations of their effect and their execution. From these rules this book has grown. It will be observed that Dr. Davis has written for the laity.

The author treats seriatim of the nature of the disease; Nature's means of preventing infection, and predisposition; various means of prevention; hygiene for the consumptive; and, finally, treatment. The work, as a whole, is well done, but the statements regarding the clinical value of alcohol, in the light of present knowledge, constitutes a larger amount of more arrant nonsense than we have read in a similar amount of space for many a day.

A NEW SIGN OF AORTIC NARROWING.

M. Lemoine has observed two cases in which there existed dilatation of the infundibulum of the aorta, there being a narrowing below attended by insufficiency. The clinical signs, which are new, he describes as follows (*Bull. Med. du Nord.*): The classical systolic souffle exists and, in addition, a presystolic rolling sound which increases as the patient passes from repose to action. While scarcely perceptible in the first instance it increases considerably after a rapid walk and presents its maximum of intensity between the third and fourth intercostal spaces of the right side, and consequently a little lower than the point of election for determining sounds of the aortic valves. In the first case observed by the author, a post-mortem examination confirmed the diagnosis.

PERISCOPE.

THERAPEUTICS.

THERAPEUTICS OF PULMONARY GANGRENE.

In view of the unsatisfactory status of the present therapeutics of pulmonary gangrene, Dr. Hewelke proposes the injection of antiseptic solutions through the chest-wall into the gangrenous part of the lung.

One injection is made daily by means of a syringe armed with a needle about 7 cm. in length. From one to two and a-half cm. of antiseptic solution are used for one injection. An alcoholic solution of thymol 1 to 300 or 1 to 200 seems to be the most applicable.

The author applied this treatment in four cases. Of this number, one died of hæmorrhage before any effect, one way or the other, could be noticed of the treatment. One case was cured in three weeks. In another case all symptoms disappeared in about six weeks. The fourth case went from under observation while it was improving, but was not as yet quite well.

Besides the antiseptic effect, the thymol injection seems to promote emptying of the pulmonary cavity through expectoration, and besides to stimulate the lung tissue to the formation of cicatrices.

As an immediate result of the injection a paroxysm of cough and bloody expectoration occur. But in no case did they excite alarm.

In general we may say that the patients bore the injections well, though they usually complained of their producing a bad taste in the mouth, which, however, did not last long.

The only disagreeable feature of the operation, seems to be the dread with which the patients anticipate it. Instead of decreasing, this dread increased with repetition of the injection.—*Deutche Med. Woch.*

VOMITING TREATED BY BLISTERING OVER THE VAGUS.

Dr. M. J. Kenny writes in the *Brit. Med. Jour.*: Some time since I attended the wife of a farmer, and mother of three children, a healthy well-developed woman, aged 32. I found her in the end of the first stage of labor, head presenting, and making fair progress, but suffering from most distressing vomiting, which came on with each uterine contraction. I was informed by her friends that she had suffered from this distressing symptoms in her previous labors, and that on each occasion the vomiting continued, for several days after delivery, to resist all the drugs employed. I delivered with the forceps, and gave four draughts, one every half-hour, containing hydrocyanic acid, bismuth and opium, but without the smallest effect. I then applied a strong fly blister, one and a-half inch by half-an-inch over each pneumogastric nerve at the anterior border of the sterno-mastoid. In four hours the vomiting entirely ceased, and did not return.

I believe in cases of persistent vomiting, due, as in the case above recited, to reflex causes, and which very often cannot be controlled by medicine taken by the mouth, blistering over the vagus might be more generally tried with advantage.

METHYLENE BLUE AS AN ANTIPERIODIC.

From the facts that methylene blue is the most satisfactory stain for the plasmodium malariæ, whether in fresh blood or in dried specimens, and that when injected into the circulation of various warm- and cold-blooded animals, this dye stains the red corpuscles, and especially colors the nuclei of nucleated red blood disks, Guttmann and Ehrlich (*Berliner klinische Wochenschrift*, September 28, 1891) have essayed to determine whether this substance has any therapeutic action in malarial disease. The scarcity of malarial affections in Berlin, has, so far, permitted experiment upon only two cases—one of tertian, and another of quotidian ague—but the results have been quite satisfactory. In the first case, one and one-half grains of pure methylene blue, in gelatine capsules, were given every three hours, for five doses, beginning ten to twelve hours before the expected chill; in the second case the same dose was given in five hourly administrations, beginning at the same time before the chill. The periodical attacks in both cases ceased within a few days after the beginning of the treatment, but the drug was continued for eight or ten days longer. No unpleasant effects were caused by the drug in either case, excepting in one instance, when mild strangury occurred, after seven and one-half grains were given at one dose. To obviate this, the experimenters administered daily about half a nutmeg, grated—a portion with each dose of the dye—and had no further occurrence of bladder irritation. The urine was stained deep-blue, its quantity was normal or somewhat increased, but albumen or sugar were never found. Fæces contained the coloring matter in reduced form, becoming deeply blue after exposure to the air. These ex-

periments are interesting, and suggest the possible advantage of combining methylene blue with quinine in the treatment of obstinate malarias of the tropics, which, as is well known, are often but slightly influenced by quinine alone.—*Univ. Med. Mag.*

ANTIPYRIN IN HEPATIC COLICS.

In the *Meditzinskoië Obozrentë*, No. 17, 1891, p. 463, Dr. Abram E. Pombrak, of Romanovo-Borisoglebsk, highly recommends the internal administration of antipyrin as an analgesic in cases of biliary colic. The author details an illustrative case of a stout lady of thirty-six with symptoms of cholelithiasis of six years' standing, the attacks occurring several times a year and lasting for many days. When called to the lady, on the second day of a severe attack, the writer found her suffering from agonizing pain accompanied by vomiting, collapse, and extreme tenderness about the right hypochondrium. For the first four days he tried the treatment by calomel (two grains hourly until liquid stools), morphium (under the skin and internally), amygdalin, leeches, etc. All the measures having utterly failed to afford relief, on the fifth day antipyrin, in ten-grain doses, and natrosalicylate of caffeine, in one-grain doses, were given (in wafers) every two hours. After three doses the pain began to subside; after further five wafers it ceased altogether. On the seventh day the patient was up and about, feeling quite well.

ON DERMATOL, A PROPOSED SUBSTITUTE FOR IODOFORM—ITS USE IN SURGICAL PRACTICE.

Dr. Charles A. Powers, in the *Med. Rec.* writes: In June of the present year Heinz and Liebrecht commended to the profession, for use as an antiseptic powder, a basic gallate of bismuth to which they gave the name "Dermatol."

The remedy is a yellow, fine powder, unaffected by exposure to light and air, and non-hygroscopic. It had been the subject of extensive experimental and clinical investigation at the university in Breslau, having been used in surgical, gynæcological and dermatological practice. It was found to influence the healing process in wounds, ulcers and the like in a markedly favorable manner, and was thought to combine the better properties of iodoform with the decided advantages of being without odor, non-poisonous, and non-irritating. It was recommended for use in all dressings in which we are accustomed to employ iodoform.

In a further communication Heinz gives in detail the causes which led to the experimentation and the manner in which it was conducted. He says, with the truth, that an antiseptic should not only be able to kill germs or restrain their growth, but that it should be free from injurious local or general effect. It should not cauterize or irritate the wound or its surroundings.

Of the dry antiseptics, iodoform alone has thus far been able to prove itself of exceptional value, and to win for itself a permanent place in surgical practice.

He appends a brief comparison between dermatol and iodoform.

a. CONDITIONS IN WHICH DERMATOL POSSESSES ADVANTAGES OVER IODOFORM.

Dermatol.	*Iodoform.*
1. It is not poisonous.	1. It is distinctly poisonous.
2. It is without odor.	2. Its odor is exceedingly disagreeable.
3. It is absolutely non-irritating, it allays irritation.	3. It produces, in many instances, a troublesome dermatitis of the surrounding skin.
4. It can by sterilized by dry or moist heat (this maybe of distinct advantage when gauze is employed).	4. This is not the case with iodoform.
5. It seems, at present, to lessen discharge to a greater extent, and to favor epithelial formation to a great degree than does iodoform.	

b. CONDITIONS IN WHICH IODOFORM, POSSESSES ADVNATAGES OVER DREMATOL.

Dermatol.	*Iodoform.*
	1. It is at present somewhat cheaper.
2. There is no reason for believing that it possesses direct effect on tubercular processes.	2. Its anti tubercular action seems to be (clinically) fairly well established.
3. It is insoluble.	3. It is soluble in alcohol and in ether.

TUMENOL IN SKIN DISEASES.

Neisser (*Deutsche Med. Woch.*), after prolonged investigation, recommends tumenol as a valuable application for some skin diseases. This substance was discovered by Spiegel, is allied to ichthyol, and like it, is obtained from mineral oils, the name "tumenol" being abbreviated from bitumen and oleum, the former being the source of mineral oils. Occurring amongst the unsaturated hydrocarbons contained in the mineral oils, the impure mother substance is treated with sulphuric acid, when a process of sulphonation under oxidation takes, which results in the production of tumenol—a compound containing two ingredients, tumenol sulphon, and tumenol sulphonic acid. In order to separate these two the tumenol is converted into salts by the addition of a solution of soda, and then extracted with ether as long as the latter continues to be colored. The

ethereal solution then contains the sulphon, the aqueous solution of the sodium salt of the sulphonic acid. The color of the concentrated preparations is black, more dilute mixtures being grey. The solubility in water is considerable, and the odor not offensive. Hitherto Neisser has only experimented with the aqueous solution of the tumenol sulphonic acid, the salts not having as yet been sufficiently tested. The effect of tumenol as a healing application is probably due to its "reduced" action, and also to the readiness with which it can be absorbed, the preparations in use being two tinctures—equal parts æetheris sulph., sp. vini. rectif., and (*a*) water (*b*) glycerine—a powder, an ointment, and a plaster. Tumenol preparations appear most suitable in the treatment of "weeping," moderately severe eczema, of burns of the first and second degrees, and of many forms of itching, whether due to eczema or prurigo. As a surgical dresser Neisser reccommends them for both superficial and deep ulceration, for ecthyma due to pediculi, for rhagades, and for scabies. Ulcers of the leg are often rapidly healed. On the other hand, tumenol is no antiparasitic, nor does it affect the patient constitutionally.

THE TREATMENT OF TUMORS AND PLASTIC EXUDATIONS BY OVERHEATING OF THE TISSUES.

Dr. Guirine (*Roussakaia Med.—Journal de Medicine de Paris*, October 25, 1891) proposes the treatment of tumors and plastic exudations by the super-elevation of the local temperature. The overheating is accomplished with a temperature exceeding that of the interior without the production of burns. In this way there is produced a degeneration of the tissue exposed to the heat. The author has treated a young girl afflicted with a tubercular lymphadenitis of the neck, which has given place to suppuration and cicatrization Hot poultices were applied over a salve of white precipitate, and changed once during the day. After about four months of treatment, the tumor had diminished very perceptibly in size, and had become divided into a number of small glandules. The hot applications did not prove in the least painful. After eight months there were left nothing but three small nodules. Fifty centigrammes of potassium iodide were then administered three times a day to dissipate the deeper infiltrations. After ninety-eight days of treatment the recovery was complete.

In another patient afflicted with hard cancer of the neck, the application of heat twice a day diminished by one-half the volume of the tumor, which was divided into many nodules. With the suspension of the treatment the regression of the tumor ceased. The treatment was terminated by a surgical operation.

The author has further seen beneficial results from the application of overheating to tertiary ulcers of the legs and of the hands, and in one case of purulent pleurisy. The action of the remedy is good also in the old affections of acne vulgaris and psoriasis, the hypertrophies of lymphatic glands, chronic rheumatism, etc.

The resorption of tissues and exudates is favored by applying along with the hot dressings solutions of chloroform, ethyl bromide or chloride, balsamic oils, and other substances which dissociate the fats.

MEDICINE.

LYMPH TRACTS AND LYMPH CIRCULATION OF THE SKIN.

Kromayer (*Donats. f. prakt. Derm.*, No. 9, November, 1891) has investigated the lymph system of the skin, and believes that there is a special and completely close system of lymphatic vessels in the papillary layer of the cutis; that this lymphatic system is one of the chief paths in which affections of the skin spread, and one of the chief reasons why most of these affections are superficial. He does not believe that any excessive transudation from the blood vessels can be compensated by absorption through the lymphatic system.—*Brit. Med. Jour.*

ABNORMAL AND SUPERNUMERARY MAMMÆ.

T. J. McGillicuddy (*N. Y. Med. Rec.*, October 10, 1891) describes ten cases of abnormality of the breast: (1) Woman aged 26; left breast only half the bulk of the right. (2) Woman aged 24; at the third month of her second pregnancy the axillary glands filled with milk; a brown areola was detected in each axilla, but no nipple; after labor the flow of milk gave great trouble, staining and soaking the clothes. (3) Woman aged 19; four days after her second labor a free discharge of milk took place, the milk issuing from two large and several small holes in the left axilla. (4) A single lady aged 26; a large supernumerary breast extended from the seventh to the ninth rib on the right side; the abnormal and the two normal breasts all hypertrophied when the

patient was 24 years old. (5) A female infant aged 7 weeks; a large nipple over the sternum, midway between the normal mammæ, and on a slightly higher level; this position is very rare. (6) A single, delicate, neurasthenic woman aged 26; breasts absent, nipple alone existing, as in a man. (7) girl aged 18, single; when 13 years old it is believed that she received a blow on the right breast; shortly afterwards the breast began to develop rapidly, until it reached the size normal in a young woman of 20; the other breast remained undeveloped. An eminent surgeon believed that this condition represented Paget's disease, and advised removal of the breast; at present the breasts are normal and of the same size; menstruation is regular and there is no disease in the sexual organs. (8) A man, aged 46, has a supernumerary mamma, as large as a normal breast of a young woman, on the posterior aspect of the left thigh, just below the gluteal fold; it appears to have been noticed at birth; its lobular structure can be distinctly determined on manipulation; on its surface are large blue veins, but there is no areola on the skin and the nipple is perfectly smooth. (9 and 10) Cases of supernumerary nipples in the male.—*Brit. Med. Jour.*

STATUS EPILEPTICUS.

This was the subject of a paper read by Drs. Trowridge and Mayberry at the recent meeting of the Americam Medical Association at Washington. It commences with an expression of regret that in a recent systematic treaties on medicine it should have been stated that as regards the immediate danger from the paroxysms the prognosis is always favorable. The authors go on to state that comparatively little consideration has been given to the condition outside asylums, but it does not seem to have to occurred to them that therein may lie an explanation of the fact—the inference of course being that the condition occurs but rarely outside asylume. In other words, as they themselves state in their conclusions, the status epilepticus is to be regarded as the climax of the neurosis. The paper gives particulars of several cases treated by the authors. They consider that the condition consists of two stages—a convulsive one and a comatose one,—the latter being occasionally replaced by a period of maniacal excitement; and that the condition is not accounted for by any demonstrable coarse lesion, and is likely to end fatally. As regards treatment, general anæsthetics, like chloroform and ether, they regard as of only temporary utility, but they may be administered with advantage where exhaustion is imminent, or while waiting for the action of some other remedy which has been given. Bromide and chloral, morphine, nitrate of amyl, and sulphate of atropine are unsatisfactory; but they are of opinion that considerable reliance may be placed upon the hypodermic injection of hydrobromate of hyoscine or hydrobromate of conine combined with sulphate of morphia.—*Lancet.*

ON THE INFECTIOUSNESS OF INFLUENZA.

Dr. H. Poole Berry writes in the *Lancet* as follows: In various articles and reports which have recently appeared in the medical journals with reference to the spread of epidemic influenza, the writers seem to be quite satisfied that this takes place by infection or contagion from person to person. In deference to the numerous high authorities who hold this opinion, I feel bound to admit it as substantially true; but I think there are very many who have had a large experience of the recent epidemics in the less densely populated parts of the country who will agree with me in thinking that, if it be true that the disease does spread from person to person, nevertheless it certainly does not spread by *direct* infection like scarlet fever, measles, smallpox, whooping-cough, etc., but that the infection must take place by some *indirect* means, just as typhoid fever and cholera are known to spread by infection indirectly. In no other way can I possibly reconcile the facts that I have observed, the manner in which the disease has first attacked certain localities, and the way in which it has subsequently spread. I am forced to such a conclusion by the following reasons.

1. Granting that the disease spreads by infection and infection only, then it must be admitted by all, I think, that it is the most virulently infective disease which we know. By this I mean that either a vastly larger number of people are liable to be attacked by this infection, or that the infection itself is much more readily communicable than is the case with any other infectious diseases which occur amongst us. Numerous instances, however, must, I think, be present in the minds of most of us in which isolated cases have occurred unaccompanied by the development of the disease in those who were in immediate contact with patients suffering from the malady. I need, I think, only allude to one or two such instances in my own practice, feeling confident that these will readily recall in the minds of others a similar

experience: (*a*) In the epidemic of 1890, a young man came from London to his home here, developed typical symptoms of influenza the next day, which ran the usual course, and none of the others in the house were attacked. (*b*) Last autumn, when the disease was not epidemic, isolated cases occurred here, irregularly scattered, cropping up from time to time, and an epidemic did not result till the spring of this year. We had this disease), then, present amongst us last autumn, this disease which is capable of spreading like wildfire through a community, and yet no widespread epidemic occurred. (*c*) In my own house, my groom had a typical attack in the beginning of February, 1891, and, with no attempt at isolation, none of the rest of my household suffered at that time, though in the middle of April I had it myself, followed a fortnight later by my cook (though the incubation period is stated to be only two or three days. This showed that two of my household, at any rate, were liable to be attacked, though we escaped when the infection was in the house in February. (*d*) In another house this year, one case commenced on Jan. 7th, another member of the family was attacked on May 5th, three servants were struck down almost simultaneously on May 26th, and on July 6th another member of the family had the disease. When the disease was present in the house, and no isolation was attempted, if the disease be so very readily communicable, why did they not all have it about the same time?

2. During the last epidemic, I especially noticed that in the villages around here some few cases of influenza were present for from seven to ten days before the great bulk of the cases occurred; that is to say, the disease was present in a particular village for a few days, when suddenly a little later a large percentage of the villagers were almost simultaneouly attacked. Why should the infection smoulder for a few days amongst a few people, and then suddenly flare up, and the whole village, as it were, be then *almost suddenly* struck down?

If those who maintain that the disease spreads by infection will admit at the outset that it does not spread directly from person to person like scarlet fever, measles, etc., but by some indirect means which exist outside the human body, then I think we may admit their theory, the ground for discussion and discovery will become clearer, and all must set to work to find out what is the manner of the indirect means by which the infection spreads. This is of the utmost importance from a preventive point of view, for it has always struck me as savoring of the ludicrous to endeavor to prevent an infection—which is known to rush across a continent in a fortnight or so, numbering its victims by thousands—from spreading by attempts at isolation, from the garret to the ground floor. Whereas, if we can discover the manner in which the infection spreads, or the conditions under which it multiplies, then there is a possible chance, at any rate, of finding out some means of holding it in control.

PERIPHERAL NEURITIS IN CANCER.

Dr. Auché concludes a work on the existence of neuritis in cancerous subjects, in the *Revue de Médicine*, October, 1890, as follows; 1. Neuritis can develop, and in fact often does delop in the course and under the sole influence of carcinomatous affections. 2. The situation of the neuritis is very variable, but in general the nerves are the more altered the father they are away from the nerve-centres. 3. These neurites are in relation with clinical symptoms which one must know to search for in such cases. 4. They are probably due to nutritive troubles and to alterations of the fluids and tissues which take place in the cachectic period of cancerous tumors.

SYPHILITIC HYSTERIA.

Dr. A. Fournier has recently, (*Gazette hebdomadaire de médicine et de chirurgie*) had a patient suffering from hysteria whose origin he attributed to syphilis. The patient was a sailor, twenty-four years of age; in his infancy he had had croup and scarlatina, at fourteen years of age he had typhoid fever, and during his nineteenth year had indulged in alcoholic excess. His father had been killed in an accident; his mother was alive and well. The patient contracted syphilis in December, 1890, and two hard chancres appeared on the penis. Owing to negligence in treatment, mucous patches appeared in May, 1891. In August the patient began to feel stupid and heavy in the limbs; at the same time he began to manifest emotional symptoms and would secrete himself for hours to avoid being ridiculed. One night towards the end of August he was awakened by a desire to urinate; on arising from his bed, he fell down and was unable to move. He retained consciousness, but could not speak, though he gave vent to an incessant inarticulate cry. At the same time the left side of his face and body became paralyzed. In September an iritis of undoubtedly specific origin appeared and the patient began to be troubled with severe headaches at night.

All these symptoms were improved by specific treatment. The patient was last seen in November. He then appeared stupid; the emotional symptoms remained. He complained of a constant pain over the left parietal region. The paralysis of the left arm and leg had partially disappeared, and there was a well-marked sensory hemi-anæsthesia over the left side of the body. Fournier believes that the hysteria had syphilis as its etiological factor, as all other modes of origin were eliminated by the patient's history. There was no evidence of alcoholism, nervous shock, traumatism, or general or infectious disease recent enough to be assigned as a cause for the hysterical feature of the case. Previous to the patient's advent to the second stage of syphilis it had been impossible, Fournier added, to discover any symptom that could lead one to suspect hysteria.

SURGERY.

OPERATION FOR INTRA-CRANIAL HÆMORRHAGE.

Dr. Stimson showed, at a recent meeting of the New York Surgical Society, a patient, forty years of age, who some weeks before had been, in the course of a quarrel, struck on the head with a club. When first seen he was found to have a marked irregularity at the junction of the parietal bone with the squamous part of the temporal on the left side. Weakness of the right leg with complete paralysis of the right arm developed—it is not stated how long after the accident,—and his vocabulary was reduced to "Yes" and "No," although he could make voluble use of expletives. A diagnosis was made of intra-cranial hæmorrhage following injury, and five or six days after the injury was inflicted he was operated on. There was found to be a fracture of the temporal bone above the ear, but no depression. A fissure ran backwards over the parietal border. No blood was found between the bone and the dura, but the latter was dark in color, and no pulsation was observed in it. On opening it a large clot was found in the subarachnoid space extending back a considerable way. An ounce and a half in all were removed and the flap sutured. There was no immediate improvement in the patient's condition, but the paralysis gradually passed away and the ability to talk returned, although there was still evident impairment of this faculty. The case is a very important one, and its progress is very suggestive. Apparently operation could not be undertaken at once, as the question of possible homicide was pending, but there seems little reason to doubt that early operation in such a case would be followed by rapid recovery. Even after five or six days, the amount of restoration obtained by the operation must be gratifying both to the patient and the surgeon, and it will no doubt become greater as time goes on. One curious thing about the case, is, that no mention is made of fits of any kind, which we should have expected as a result of a subdural hæmorrage such as was present.—*Lancet.*

ON THE METHODS OF STRETCHING OR EXCISING A PART OF THE INFERIOR DENTAL, LINGUAL, AND SUPERIOR MAXILLARY NERVES FOR EPILEPTIFORM NEURALGIA (TIC DOULOUREUX).

Dr. W. J. Walsham writes, in the *Brit. Med. Jour.:* in the article on the various surgical procedures, devised for the cure or relief of trigeminal neuralgia—"tic douloureux"—lately published in the *Journal*, Mr. Horsley in speaking of the operation for stretching or excising a portion of the inferior dental or lingual nerves by the incision through the mouth, states that this operation may "now be said to be very rarely practised." I was surprised to read this, since it is an operation I have performed very frequently during the last twelve years, and I have come to regard it as the simplest, the safest, and the best of the methods of exposing those nerves. Mr. Horsley says, "The great objection to such an operation, is the certainty of the wound becoming septic, and the consequent inconvenience and danger to the patient, not only from the danger of local necrosis, but of general infection." Seeing that the wound communicates with the mouth, I imagine it cannot be denied that it may become septic, but at the same time I can affirm, from an experience of a very considerable number of these cases, that it heals up perfectly in a few days, and generally by the first intention. I have never seen any general infection follow, and in only one case was there suppuration and local necrosis. But this happened to one of the first patients on whom I operated in this manner, and I attributed it rather to my then inexperience of the operation, and consequent unnecessary disturbance of the parts in exposing the nerve, than to any defect in the operation itself. Moreover, my experience of wounds in general about the mouth is, that, as a rule, they heal exceedingly well. I do not think,

therefore, that any fear of septic trouble, local or general, need deter us from choosing this operation, if in other respects it appears superior to others that have been proposed or performed. That it is superior I claim for the following reasons: (1) That, there is no external wound or disfigurement whatever; (2) that no muscle or other important structure is divided; (3) that no removal of bone is necessary; (4) that the parotid gland and the articulation of the jaw are not interfered with; (5) that the exposure of the nerves is all that can be desired; (6) that the wound heals readily in a few days, and that the patient, as a rule, may be said to be perfectly convalescent from the time that he recovers from the anæsthetic.

There are some points, however, to which it is important to attend in performing this simple little operation. 1. A clean and free incision should be made through the mucus membrane to facilitate rapid healing. 2. The internal pterygoid should be separated from the bone without unnecessary bruising; and (3) care should be taken not to detach the periosteum from the jaw. As an example of the simplicity and safety of the operation, I may mention the case of a patient on whom I have operated some five or six times through the mouth. I first stretched his inferior dental nerve ten or twelve years ago. He has perfect immunity from pain after each operation; on the last occasion but one, for about eighteen months. On each recurrence of the neuralgia he comes into the hospital, has his nerve stretched, leaves on the second or third day after the operation, and is thus only incapacitated for business for a few days.

I have read over the steps of Mr. Horsley's operation very carefully, and am acquainted with the operations to which he refers; but I confess that after reconsideration of the subject, it still seems to me that the incision through the mouth is by far the best operation. I make this communication since it seems to me a pity that so simple, so safe, and so efficacious a procedure should fall into disrepute.

I have a word or two to say on the method of stretching or excising the superior maxillary nerve, and removal of Meckel's ganglion. In the few instances in which I have operated, I have reached the nerve and ganglion by working through the antrum, chipping away the lower wall of the infra-orbital canal, and trephining the posterior antral wall. I have had no difficulty with regard to the healing of the antral wound. It seems to me that when the periosteum is separated from the orbital floor, and the upper wall of the infra-orbital canal is attacked, there must be some slight risk of injury to the contents of the orbit; whilst, moreover, the antrum may still be opened, but in such a position that it would there be impracticable to obtain a dependent drain.

THE BURIED SUTURE.

In an editorial in the *North American Practitioner*, the advantages of the buried suture are given as follows:

1. It is a permanent suture.
2. It is a suture which does not invite sepsis, as the skin suture does.
3. It is less painful than the skin suture.
4. It produces more perfect coaptation.
5. It is followed by less scar.
6. It is the ideal suture.

From this study it would seem that the use, except in exceptional instances, of the skin (temporary suture), is as irrational as the use of the temporary ligature.

OBSTETRICS.

MATERNAL IMPRESSIONS.

This subject seems to be perennial in medical literature. Dr. Ballantyne and other modern authorities have given reasons why maternal impressions should be taken into account when the causes of monstrosities are under consideration. A paper on a suspected case of maternal impressson was published in a recent number of the *Centralblatt für Gynäkologie*. Dr. Wolff, of Wilhelmsburg, was consulted in October by a patient recently confined, about a malformation in the child. There was defective development of the middle, ring, and little fingers of the left hand, so that the corresponding metacarpal bones each bore a single ill-formed phalanx, with a rudimentary nail. The rest of the child's body was free from any deformity. None of the infant's relatives appear to have been subject to any kind of deformity. The mother informed Dr. Wolff that in the second month of pregnancy she was greatly distressed by seeing a woman who had lost nearly all the fingers of one hand at a fire. There was also ugly scars on the face and neck, but the mother could not help dwelling for months on the injured, fingerless hand. We must not overlook the possibility of coincidence, as burnt hands are not rare, nor is imperfect development of the fingers extremely infrequent. Again, some relative may have had a similar deformity, which his or her relatives had overlooked. Every medical man who has made extensive clinical

researches is aware how very little people know about their nearest relatives. Professor Bertram Windle has recently written on teratological evidence as to the heredity of acquired conditions, and shown how polydactyly at least tends to be hereditary. There are several other questions to be considered before the doctrine of maternal impressions can be established as a sound, scientific theory. Amniotic bands certainly damage many parts of the fœtal body, and the fingers seem particularly exposed to injury from that source. The fœtus is not free from disease of its blood-vessels, which may arrest nutrition and development, especially at the extremities. Lastly, the supporters of the maternal impression doctrine cannot show how psychical influences in the mother may influence the development of the child. Such influences may exist, but, as a rule, monstrosities can be traced to more definite sources.—*Brit Med. Jour.*

FORECASTING THE SEX OF THE CHILD BEFORE BIRTH.

Dr. R. Ross says in the *Lancet* that for many years he has been in the habit of successfully determining the sex of the child from the position in which the mother describes the fœtal movements to be most marked and constant. Most women can, but some cannot, differentiate the locality. In those who can he finds the following rule applies. If the fœtal motions are chiefly and most intensely felt on the left side, predict a male; if on the right, a female. The following cases from his note-book:

1. S.	Chief site of fœtal motions left side.		Male birth.
2. C.	do	do	do
3. M.	do	do	do
4. M.ac.	do	do	do
5. S.	do	do	do
6. B.	Chief site of fœtal motions right side.		Female birth.
7. Pm.	do	do	do
8. Sc.	do	do	do
9. B	do	do	do
10. Mc.	do	do	do
11. Ma.	do	do	do

GALEGA AS A GALACTAGOGUE.

Carbon de la Carrierre says: (*Arch. de Toc. et de Gyn.*, August, 1891) Goat's rue is an almost forgotten drug at the present day, although at one time it had a certain reputation as a galactagogue. The author believes that it deserves to be reinstated, as, according to his experience, it has a decided effect on the mammary gland, increasing deficient and restoring suspended secretion of milk.

All physicians have met with cases in which, in spite of every hygienic precaution, the milk becomes less in quantity without any appreciable cause. Poultices of the leaves of the castor-oil plant and faradization of the breast do not give the desired result. Phosphate of calcium, extract of malt, and Bordeaux are often administered. Galega is a useful adjuvant, and, even when used alone, gives excellent results. It is perfectly innocuous, is a stimulant to digestion, and is slightly diuretic in its action.

The aqueous extract is the one to be preferred. One to five drachms should be given daily in divided doses. The amount may be increased if necessary. The drug takes effect in a few hours, but must be persisted in for at least ten days in order to secure permanent results. It may be administered with distilled water and simple syrup, or in mucilage in the form of pills. Fennel and calcium phosphate may be associated with it to advantage. An especially efficacious formula is the following:

℞ Aqueous extract of galega,
Lactophosphate of lime,
Tincture of fennel.....aa 3ij ℈ ss 40
Simple syrup..... 3xij ℈ ss 3vi ℈ ss

Four to eight tablespoonfuls a day in water, beer, or milk.

GYNÆCOLOGY.

LACERATION OF THE VAGINA.

Piering (*Centralbl. f. Gynäk.*, November 28th, 1891) speaks, not of the tearing away of the vagina transversely from the cervix, but of longitudinal lacerations confined to the vagina itself. Most authorities attribute recto-vaginal fistulæ to direct perforation by instruments and pieces of bone, or to imperfectly healed lacerations of the perineum. Dr. Piering describes a case where the vagina was torn during spontaneous labor. The patient was a primipara, aged 41; the soft parts were very rigid. Instruments were not needed, but the head was delayed at the perineum, so that it was thought advisable to make an incision one inch long in the tough inelastic perineal tissues, on the right side. The parts were watched during the next pain, when a gush of blood escaped from the rectum, the right hand and part of the forearm of the fœtus appearing out of the anus. The arm was replaced, and the child was born without any further damage to the perineum. The tissues around the laceration were much bruised, and union by first intention could not be expected. The incision in the perineum was found to be no longer than it was when made by the operator. The cervix was not lacerated. After thorough disinfection of the parts, the vagina was plugged

with iodoform gauze. On the third day the bowels acted no feces came through the vagina. During childbed there were two attacks of fever, which disappeared when the surface of the wound was painted with tincture of iodine. When the patient was discharged, a firm and perfect cicatrix had formed; it could not be distinguished on the rectal side.

RAPID EXPLORATION OF THE UTERINE CAVITY.

The report of the removal of the ovaries for persistent uterine bleeding, by Dr. Farcourt Barnes, is received with considerable surprise by J. F. W. Ross (*New York Medical Journal*, October 24, 1891). Dr. Ross is in the habit of forcibly dilating the uterus under these circumstances, and exploring the cavity of the uterus with his little finger. He has yet to meet with the first case of damaged appendages produced by rapid dilatation and exploration. The procedure must be carried out on strictly antiseptic principles. The vagina and cervix should be thoroughly irrigated with a sublimate solution; instruments are to be taken directly from boiling water, and rendered cool enough to handle. The Goodell dilator is the best. The cervix is gradually dilated, and when the limit of the instrument (an inch and a half) is nearly reached, the blades are allowed to fall together again, so as to relieve the tension for a moment and restore the circulation of the part.

When the limit is reached this is also done, and the blades are again separated, so as to make the dilatation as complete as possible. The dilator must be passed beyond the interal os. When this is accomplished the little finger is readily passed into the uterus, and its cavity completely investigated. The uterine cavity is packed with iodoform gauze, and the vagina is filled with the same material. The patient is kept in bed for several days, and the gauze is removed in forty-eight hours. Cleansing douches are then given. By this treatment he has diagnosed cancer of the fundus, sloughing intrauterine fibroids, fungus endometritis and retained placenta. He is firmly convinced that cases of obscure hæmorrhage from the uterine cavity are, in the main, due to the presence of small, almost unrecognizable fibroids. The practice of making irritant applications —such as carbolic acid, iodine, etc.—after dilatation and exploration to be condemned. Gradual dilatation by tents or bougies is not advised.—*Univ. Med. Mag.*

THE TREATMENT OF CHRONIC OVARITIS.

A. J. C. Skene (*Medical News*, June 13, 1891). Many of the cases treated by abdominal section are not much, if at all improved. The cases cured are those operated on when near the menopause; those improved are generally such as have suffered from complicating affections; for example, dysmenorrhea; while the unimproved are the younger subjects in whom the disease was uncomplicated. The indications for treatment are both general and local. The indications for general treatment are to lessen the blood supply and relieve pain by correcting the deranged innervation. This, in the early stage, demands rest in the recumbent position. At the same time general exercise should be advised, either by massage or by gymnastics in the reclining position. The condition of the digestive organs should be carefully watched and relieved by small doses of mercury and a laxative. The saline laxatives are the best. To relieve pain and lessen the hyperæmia the bromide of sodium and fluid extract of hydrastis canadensis are by far the most potential agents; they are given in combination—twenty to thirty grains of the bromide and ten to twenty minims of the hydrastis, three times a day, until the physiological effects of the bromide are noticed in a mild degree.

Sometimes the bromide fails, even in larger doses, to relieve the menstrual pain. In this case ten grains of salicylate of sodium and five of antipyrin, given between meals, answer for some time; others, more especially those markedly debilitated, do better on full doses of aromatic spirits of ammonia, camphor and chloric ether, with small doses of cannabis indica. In the unmarried local treatment should be avoided. Hot sitz-baths, counter-irritation and hot vaginal douches comprise about all that should be employed in young women. In married women any complicating disease should be treated locally. In addition, applications which will relieve the tender and hyperæmic ovaries are applicable. A small tampon, saturated with equal parts of tincture of belladonna and glycerine, applied behind the cervix and permitted to remain forty-eight hours, is useful, and after its removal a hot douche. These are continued for five days, and are followed by an application of tincture of iodine to the vaginal vault. Good effect has been obtained from the sulphichthyolate of ammonium, five parts in ninety-five of glycerine, applied in the same way as the belladonna and glycerine. The general and local treatment thus briefly outlined gives relief to the more pronounced symptoms.

The pain becomes less and also the tenderness. The general health improves and the pelvic congestion subsides. From this point tonics and laxatives may still be required, but alteratives are also indicated. Iodine and mercury are the chief agents. Small doses of bichloride of mercury, with chloride of iron, when iron is indicated, followed by syrup of the iodide of iron, in doses as large as can be borne, may be administered. These can only be used when the bromides are given up. In place of the bromides, sulphonal is of great value to promote sleep. The treatment is necessarily a long-continued one and requires patience and careful watching.—*Univ. Med. Mag.*

PÆDIATRICS.

DIPHTHERIAL INFECTION OF TRACHEOTOMY WOUNDS.

Dr. Spronk, of Utrecht, (*Centralb. f. Allg. Path. u. Path. Anat.*, 1892, No. 1) has discovered in the case of three children who had been tracheotomised for diphtheria a condition which has not hitherto been described, but which he thinks is far from rare. This consists in an inflammatory œdema of the subcutaneous and fatty tissue around the tracheotomy incision, caused by the invasion of diphtheria-bacilli. He points out that in ordinary diphtheria the bacilli are confined to the epithelial surface and the false membrane, and never penetrate into even the uppermost layers of connective tissue so long as the mucous membrane is free from necrosis. Nor are the bacilli ever found in the internal organs and blood of infected individuals. Nevertheless it has been shown experimentally that these microbes can multiply in the subcutaneous tissues, especially of some animals, guinea-pigs for example. The cases he examined had died a few days after tracheotomy, and although the wound itself was free from membrane, and looked healthy, yet there was a more or less widespread diffuse œdema, without any change in the superjacent skin. This œdema was obviously inflammatory, but there was no necrosis. In two cases it occurred not only in the vicinity of the wound, round the trachea and in the intermuscular tissue, but extended for some distance over the chest and upwards to the supra-clavicular regions. He found by tube-cultures that the serum taken from different parts of the œdematous area contained abundant bacilli, which were almost as numerous at a distance from the wound as near to it. The possibility that they may have multiplied after death was slight, seeing that these organisms require a temperature of at least 20 C. to grow. Other bacterial colonies were produced from the serum, but in one case this yielded almost a pure culture of Klebs' bacilli, and the capability of these organisms to cause this type of inflammation was proved experimentally. Dr. Spronk lays especial stress on the fact that, although of course the infection takes place through the tracheotomy wound, yet its margins appeared natural. This he ascribes to the use of iodoform and the short time that elapsed between the operation and death. The importance of the discovery lies in the additional risk of the rapid absorption of the toxine produced by the bacilli when these are lodged in the connective tissue.—*Lancet.*

NEW ANTHELMINTIC, SANTONINOXYME.

Coppola (*La Union Médicale*, March 26, 1891.) thinks that he has discovered in santoninoxyme, a derivative of santonine, a safe and reliable substitute for this favorite anthelmintic. It was found that animals in which epileptiform convulsions were produced by santonine were unaffected by even large doses of santoninoxyme. Its therapeutic action is sure and certain, and its administration is not followed by any secondary disagreeable phenomena. Santoninoxyme is employed in the same manner as santonine, with the exception that the dose is three times as large.

A NEW TREATMENT OF DIPHTHERIA.

Catuffe, in view of the difficulties frequently encountered in attempts to swab the throat in diphtheritic children (*Bulletin Medical*), thinks that it is better to abandon the use of collutories, and to substitute therefor a remedy which is both sialogogue and antiseptic. His procedure is as follows:

During the day inunctions of fifteen to thirty grains of mercurial ointment are to be made every hour; and, at night, every two or three hours, at the sites of election (the axillæ, internal aspect of the thighs). At the same time frequent washing out of the mouth with a solution of chlorate of potassium, together with a general treatment.

By these means, the author claims to have obtained excellent results, having observed neither albuminuria nor stomatitis. In all the cases salivation was quite abundant.

To Stupefy Bees, some apiarists are in habit of burning in the hives ammonium nitrate, which thereby is converted into laughing gas (N_2O).

HYGIENE.

RECENT EXPERIMENTS WITH THE PNEUMOCOCCUS OF PNEUMONIA AND ITS TOXINE AND ANTITOXINE. THE POSSIBILITY OF CONFERRING IMMUNITY IN ANIMALS, AND EVEN IN MAN.

G. and F. Klemperer have published a memoir in which are detailed some important recent experiments, the practical outcome of which may possibly be of some real therapeutic importance.

The directing idea which guided these German investigators in their experiments was the following: It is known that in most cases pneumonia after having, during from five to seven days, caused grave general symptoms, terminates abruptly by crisis. In the space of a few hours, the temperature falls to its normal level, and even below it, the pulse becomes slower and firmer, and the patient experiences a striking amendment. Now at this moment there has been little or no change in the state of the lungs, which still remain infiltrated with fibrinous exudation, nor in the properties of the pneumococci, which are found in great numbers in the sputa, and retain all their virulence, as can easily be proved by inoculations of animals.

The pneumonic crisis, then, does not depend on any change in the state of the lungs, or in the microbes which have caused the infection. To what, then, are we to attribute it? Only one explanation is possible; the crisis is due to the products of secretion of the pneumococcus, which, by their accumulation, modify at a given moment the soil on which the microbes develop.

In their experiments made on hares, the Klemperers early observed that any nutritive substance which had served as a culture medium for the pnemococci, even if it had been separated from the microbes by filtration, might confer on the animal immunity against the pneumonic infection. The power of this vaccine may be augmented, both in rapidity and intensity of action, by subjecting the liquid for two or three days to a temperature of 41° C., or during two or three hours to a temperature of 60° C.

They then obtained experimental proof that the blood-serum of a hare "vaccinated" against the pneumococcus, may cure the pneumonic infection; it suffices to inject this serum under the skin or into the veins of the infected animal. An intravenous injection of eight cubic centimetres of serum of an animal rendered refractory, practised twenty-four hours after the infection produces a gradual fall in the febrile temperature, and hastens the cure of the animal.

As will be seen, these experiments strikingly resemble those of Behring and Kitasato, who lately announced that the blood-serum of animals rendered refractory to tetanus and diphtheria, is capable of curing other animals of these diseases.

In another series of researches devoted to the study of the cause of the curative action of the serum of vaccinated animals, the German pathologists found that the pneumococcus when introduced into the body of an animal gives rise to the production of a *pneumotoxine* which may be isolated. This pneumotoxine produces a febrile reaction of several days' duration, after which they have noted in the fluids of the animal, another substance, *anti-pneumotoxine*, which has the property of neutralizing pneumotoxine.

The blood-serum of an animal on which immunity has been conferred, contains anti-pneumotoxine, and it is this which seems to forward the cure of the pneumonic infection. In the blood-serum of patients affected with fibrinous pneumonia, they have also found pneumotoxine and anti-pneumotoxine, the first, chiefly during the febrile period of the disease, the second, after the crisis. They claim to have cured the pnemonic infection in hares, by injecting in these animals blood-serum taken from a pneumonic patient after the crisis.

After being assured by experiments made on themselves, that man may support with impunity and without any local and general reaction injections of the serum of animals rendered refractory to Fraenkel's diplococcus, the pathologists above mentioned ventured to experiment clinically, with therapeutic intent, on some patients, affected with pneumonia. Although these trials covered only six patients, the result has been encouraging. In fact, in all these patients, a hypodermic injection of four to six cubic centimetres of serum was followed at the end of from six to twelve hours by a considerable fall in the temperature with slowing of the pulse and respiration.

These experiments are especially noteworthy in that they so strikingly confirm the almost simultaneous and independent experiments of Emmerich and Fowitzky, who claim that they have conferred immunity on the hare by means of hypodermic injections of attenuated cultures of the pneumococcus; but this immunity, they say, is incomplete, and the extract of the organs of the animal has but an incomplete curative action. On

hares infected by pneumococci, *per contra*, full immunity is obtained by intravenous injections of a culture having its entire virulence, but largely diluted. The liquid obtained by crushing and expression of the organs of an animal thus rendered refractory exercises on the pneumonic infection a sure curative action when it is injected under the skin into the abdominal cavity, and especially into the veins of the infected animal.

Large expectations are being entertained by many enthusiastic workers, that researches akin to those above noticed, now going on in many parts of the world—researches the inspiration to which came from Selmi, Gautier, Bouchard, and especially Koch—are destined to be very fruitful in therapeutic results, and that possibly the physician of the future, armed with his hypodermic syringe and his vial of "antitoxine" will find himself master of any and every infection. However, the disappointment experienced thus far in regard to tuberculin should cause us to entertain such expectations with a degree of caution and moderation.—*Bost. Med. Surg. Jour.*

MEDICAL CHEMISTRY.

EUCALYPTO RESORCIN.

This is the name given by Barbey, in the *Bulletin Commercial*, to a reaction product of resorcin and oil of eucalyptus. Resorcin in excess is mixed with oil of eucalyptus, and chloroform is added, and the whole shaken. The clear solution, when poured off, leaves behind a mass of needle-like crystals, having a strong camphoric odor, and which are insoluble in water, but easily soluble in alcohol, ether, and chloroform. This body, on fractional distillation, gives various liquid and solid distillates which have not yet been examined. Naphthol, pyrogallol, and picric acid also give with eucalyptol similar crystalline bodies, all of which have a strong camphoric odor.

QUANTITATIVE ESTIMATION OF PEPTONES.

Riva-Rocci describes (*Centralbl. f. klin. Med.*, November 21st, 1891) a new method, as those hitherto proposed have not been available for clinical work. The greatest difficulty consists in getting rid of the agent employed in throwing down the remaining albuminates, or in estimating the amount of this agent. The author saturates the filtrate from the stomach contents with magnesic sulphate, this salt being used in preference to ammonic sulphate, as it is not decomposed by calcination. Since the magnesic sulphate must be previously dried at 110° C., Riva-Rocci found it necessary to determine the difference in weight between the exsiccated salt at 110° and the calcined salt at 220° when all its water of crystallization has been given off. This amounted to 15 per cent. of its weight. The method consists in estimating (1) the total amount of albumen after it has been precipitated by absolute alcohol; (2) the coagulable albuminous bodies according to Devoto's method; and (3) all the albuminous bodies except Kühne's peptones after they have been thrown down by a saturated solution of magnesic sulphate. The weight of the salt present as ascertained after calcination plus 15 per cent. of its weight is then substracted. The difference between (1) and (3) represents the amount of peptones, and that between (2) and (3) the quantity of hemi-albumoses present.—*Brit. Med. Jour.*

ACETANILIDE AND SALICYLIC ACID.

Dr. Ritsert observed some time ago that the mixture of the above compound with ammonium bromide, known as "antinervin," is remarkable for the fact that the melting-point of the mixture is much below that of its constituents. Mr. H. Prüsse, one of his pupils, has since taken the matter up, and sends a report to the *Pharmaceutische Zeitung*. Acetanilide melts at 114° C., and salicylic acid at 156° C., but antinervin melts at about 80° C. The following are the results obtained from the examination of various mixtures, the lower figures denoting when melting began and the higher when it was complete:—

One equivalent of salicylic acid with	
1 equivalent of acetanilide	82° C.—119° C.
½ " "	93° C.—141° C.
¼ " "	127° C.—148° C.
⅛ " "	139° C.—150° C.
1/10 " "	144° C.—154° C.
One equivalent of acetanilide with	
1 equivalent of salicylic acid	82° C.—119° C.
½ " "	76° C.— 86° C.
¼ " "	88° C.—100° C.
⅛ " "	91° C.—104° C.
1/10 " "	107° C.—111° C.

It is evident from these figures that as small a proportion as 1-100th equivalent of either body mixed with the other is capable of materially altering the melting-point, and, obviously, antinervin is as near as possible represented by a mixture of 1 equivalent of acetanilide and a half of salicylic acid.

TWO THOUSAND names of soaps of domestic and foreign manufacture registered at the patent office, are enumerated by the *American Soap Journal and Perfume Gazette*.

NEWS AND MISCELLANY.

THE PAN-AMERICAN MEDICAL CONGRESS IN NEW YORK STATE.

At a meeting of the Medical Society of the State of New York at Albany, February 5, a committee was appointed to co-operate in promoting the interests of the Pan-American Medical Congress. The committee consisted of Drs. S. Walter Suiter, A. Vander Veer, James D. Spencer, Seneca D. Powell, W. W. Potter, D. B. St. John Roosa, and J O. Roe.

AN ARMY MEDICAL BOARD.

Will be in session in New York City, N. Y., during April, 1892, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the Board, will make application to the Secretary of War, before April 1, 1892, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between 21 and 28 years of age, and a graduate from a Regular Medical College, as evidence of which, his Diploma must be submitted to the Board.

Further information regarding the examinations, may be obtained by addressing the Surgeon-General U. S. Army, Washington, D. C.

C. SUTHERLAND,
Surgeon General U. S. Army.

A CONCOURSE will be held at Rush Medical College, beginning Tuesday evening, March 1, for the purpose of filling the positions of Lecturer on Anatomy, and on Materia Medica, and Therapeutics in the Spring faculty.

The Spring course begins March 31, directly after the close of the regular term, and continues two months with a class of from 250 to 300 students, thus affording the lecturers an excellent opportunity to exercise their skill as teachers.

It is the policy of the College, so far as practicable, to fill vacancies iu the regular faculty from the corps of Spring instructors, Nine of the present members of the regular Faculty have been selected in this way.

The Concourse will consist of twenty minute lectures by each of the applicants before the Faculty, students and local profession, upon subjects pertaining to their branches, which will be furnished by the Professors of Anatomy, and Materia Medica and Therapeutics, a week before the contest.

E. FLETCHER INGALLS,
Registrar.

A MORBID VIENNESE CUSTOM.

It appears (says the *Medical Record*) that a somewhat morbid custom exists among the Viennese of having the dead bodies of children and other persons dear to them photographed, and for this purpose the corpse used to be taken to the photographer's studio. The attention of the sanitary authorities having been drawn to the danger of the dissemination of infectious disease by this practice, a decree has been issued by the Austrian Minister of the Interior absolutely forbidding the photographing of corpses in studios open to the public, and the photographing of bodies of persons who have died of any infectious disease by professional photographers, even in private houses. Exception is made of cases in which such photographs may be required for police or medico-legal purposes. In case of persons who have died of non-infectious disease, the corpses may be photographed at the private residence of the deceased, subject to the approval and on the responsibility of the medical official whose duty it is to verify deaths.

MORTALITY OF THE HUMAN RACE.

The annual mortality on the whole earth may be estimated on the ground of recent statistical results at about 33,000,000 of persons, which constitutes an average 91,554 deaths per day, 3,730 per hour, and consequently sixty-two per minute. The average length of human life is thirty-eight years. One-fourth of the human race dies before attaining the seventh year; one-half before attaining the sixteenth year, or in the course of this year. But one person among 10,000 attains the age or 100 years, while one among 500 attains ninety; one among 100 attains sixty. Married people live longer than the unmarried. Among 1,000 persons who have reached the age of seventy years, forty-three belong to the clergy or to the political class, forty to the agricultural class, thirty-three are workmen, thirty-two are soldiers, twenty-nine are lawyers or engineers, twenty-seven are professors, twenty-four physicians. —*Internationaler Phar. General-Anzeiger.*